NATIONAL PETROLEUM NEWS

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Standard Controls Sale of Ethyl Gasoline In Indiana Territory Until 1929

NO JOBBER in Standard of Indiana territory will be able to sell Ethyl gasoline until 1929. The Standard Oil Co. of Indiana has an exclusive contract with the Ethyl Gasoline Corporation covering the sale of the anti-knock fuel for that period.

This was made clear to the oil industry in the first official statement ever given out by the company that controls the manufacture and sale of Ethyl fluid. The statement was in an address prepared by E. W. Webb, president of the Ethyl Gasoline Corp., for presentation at the convention of the National Petroleum Marketers Association here. The paper was prepared at the invitation of L. V. Nicholas, president of the jobbers' association.

Mr. Webb in his paper, went on to say that even outside Standard of Indiana territory, installation of mixing stations for blending the ethyl fluid with gasoline, which are installed only at refineries, will proceed rather slowly. He said, however, that all reputable jobbers in the southern and eastern territories who want to take on the sale of Ethyl gasoline will be able to get it within a few months, because the demand for the anti-knock fuel in those territories has led to the establishment of a considerable number of mixing stations.

In his paper, Mr. Webb outlined the development of the company's policy in marketing ethyl fluid. The paper in full follows.

By E. W. Webb
President, Ethyl Gasoline Corp.

YOUR president has asked me, as an officer of the Ethyl Gasoline Corp., to outline to you our marketing program. This, I am pleased to do, but before attempting to state it, it would perhaps be best to relate to you the conditions surrounding the operation of our business insofar as they have an effect upon such program, in order that you may have a better understanding of why we have adopted our prseent plan of marketing.

Our company is engaged in the business of selling Ethyl fluid, which consists of tetraethyl lead and other ingredients. The health hazards involved in this comparatively new enterprise have been those connected with the manufacture of tetraethyl lead, its blending with the other chemicals and the mixing of the concentrated fluid with gasoline.

Tetraethyl lead is manufactured today in but a single plant, which has been brought to its present state of production in such fashion as to cause us to believe that the risks in connection with it have been reduced to an absolutely negligible point, but this has been accomplished only after arduous, painstaking and unremitting labor upon the part of all associated with the problem.

The extraordinary care which is being exercised in the production of tetraethyl lead, of necessity does not permit hasty or rush methods to be employed anywhere along the line, and places us in a position where the production facilities at present and those which may be developed during the next six months or so, will not be more than sufficient to meet a fair increase of business over our present contract requirements. However, this phase of the business is now being handled in such a satisfactory manner as to justify the prediction that we will probably have a sufficient quantity of Ethyl fluid within a year from now to fairly well meet the requirements of those interested in our product—assuming there is a substantial increase in demand for it—provided, of course, that such increase is not beyond reasonable expectations.

From the manufacturing stage we next proceed to that of mixing the concentrated Ethyl fluid with gasoline. This is not done by us. In each instance it is carried by our customers. In this connection I would like to point out the progress—if you will permit me to so term it—that has been made during the past two years. Originally, Ethyl fluid was sold to oil companies who in turn sold Ethyl gasoline at retail or through dealers to the public by means of a small mixing meter attached to gasoline retail pumps. The mixing meter discharged into the gasoline line which led from the pump to the automobile tank, the requisite amount of concentrated fluid to treat the gasoline which was being sold to the motorist, so as to bring it up to the anti-knock standard set by us.

Most likely no better method for general distribution could have been employed than this, but as business increased it was felt that it was not the best practice to permit so many thousands of men all over the country to handle the concentrated material; so this plan was abandoned and that next taken up was that of mixing the fluid with the gasoline in tank wagon lots.

This, of course, was done at the bulk stations of the various oil companies. Obviously, this substantially reduced the possible number of men who would be employed in the process of mixing, but even under this method there would still be several thousands so engaged if the product was eventually broadly distributed.

The surgeon general, after the investigation with which I dare say

most of you are familiar, adopted a proposed regulation for mixing Ethyl fluid with gasoline, reading as follows:

Mixing Ethyl fluid with gasoline, except for certain specific requirements such as research, military and naval use and air mail service, shall be done only at the main distribution centers and in not less than tank car lots. Adequate provision shall be made in each such center for thorough mechanical distribution of the Ethyl fluid throughout the gasoline and the efficiency of such distribution shall be controlled by the analysis of samples.

Although there had not been a reported case of any person becoming ill who was engaged by our customers in mixing the Ethyl fluid with gasoline in tank wagon lots as indicated, nevertheless, we heartily concurred with this proposed regulation, as it unquestionably, by such limitation, would very materially reduce the number of men engaged in handling the concentrated fluid.

We accordingly, when we resumed business this past spring, scrapped every pump and piece of equipment which was theretofore used for the combining of Ethyl fluid with gasoline to form Ethyl gasoline under either of the methods which I have just been discussing, and concentrated our efforts toward the development. of .a plan which would afford the best means of getting general distribution and at the same time reduce to a minimum the number of mixing points. In furtherance of that object, we had manufactured a mixing pump which enabled us to treat a tank car of gasoline as, if not more, satisfactorily than we had been treating tank wagon lots.

However, as we advanced from one step to another in this quest for as ideal a mixing outfit as we could perfect, having in mind the need for medical supervision at all points where mixing was to be done, we definitely came to the conclusion that it was not capable of being properly handled on a large comprehensive scale unless we confined the mixing to refineries.

Accordingly our board decided that we should confine our sales of Ethyl fluid to concerns having one or more refineries and that all mixing should be done at the refinery of such concerns, except under extraordinary circumstances and that such exception should be first certified to by our Medical Director. Under this plan of operation we have been able to advance one more step in mixing. It was found feasible at refineries to set up an eductor or suction system, thereby doing away with the metering pump at the majority of points. In all liklihood the few points where tank car mixing is going on today will be discontinued by the end of this year. This eductor system is a very simple affair.

How Mixing Is Handled

IT means that the refinery sets apart a large storage tank varying in size from 10,000 to 50,000 barrels capacity for Ethyl gasoline. The Ethyl gasoline gets into this tank by having an eductor connected on to the main gasoline flow line and sucking out the concentrated Ethyl fluid from a 50-gallon drum by reason of a double venturi which is in the eductor, thereby creating a vacuum. This causes the Ethyl fluid to be drawn into the regular gasoline flow line on its way to the storage tank in a manner which affords proper agitation at that point and when it gets into the storage tank it is further agitated. Once in solution it remains so. From this storage tank the Ethyl gasoline is delivered through pipes to the tank car loading racks of the refinery, the same as any other gasoline.

It is apparent that this method involves mixing quite infrequently. The number of men employed at any point average from two to four. Today we have only about 50 places where concentrated Ethyl fluid is mixed with gasoline. The entire number of men so employed throughout the United States does not exceed 200.

These men are examined at quite frequent intervals by our medical force to see to it that they are in good physical condition and the equipment is also frequently inspected by our personnel to the end that the mechanical operation shall function properly. We are gratified with the splendid cooperation we have recvieed from the refineries at all mixing points, as well as our check-up on the men so engaged, which in every instance, shows they are in fine condition and not being affected adversely by reason of this employment.

No Precedent to Go By

Needless, to say, most of the work associated with this enterprise has been of a pioneering nature. We have had no one else to consult to find out how they were running a business of like nature—there were no precedents to go by—and although mistakes have been made, yet we have every reason to believe that with the hearty cooperation of the refineries where mixing is now or may hereafter be done, it can be carried on in a manner which will not be harmful in the slightest degree to the men employed in handling the concentrated material.

I have spent a great deal of your time in trying to picture to you what our problem has been. However, it all has a direct bearing upon our marketing policy, as the two are inseparably related.

We have been supervising installations of the eductor type for old and new customers as expeditiously as our facilities would warrant. We are trying not to be rushed by anybody or any company. Installations will be made by us and such arrangements made for mixing with any reputable refinery which is interested just as soon as we can get around to it. Frankly, those who are marketing in the eastern and southern sections of the country have indicated more concern about anti-knock fuels during the past year than those to the west and southwest.

As a consequence, we have received a large number of requests for mixing set-ups at this and that refinery in eastern and southern territory. We are following a plan of making installations without preference, but with due regard to the facilities for mixing and the order in which they have been presented, and because of the reasons which I have attempted to present to you, I am obliged to state that a number of installations will be made between now and next summer, and others of necessity we will not be able to make within that period. However, I believe that reputable jobbers in the eastern and southern territory will have no difficulty in getting Ethyl gasoline sometime within the next 12 months and a large number of them quite some

Can Anyone Help Her?

Mrs. L. L. Marsh, 953 N. Elizabeth St., Lima, O., desires information concerning her uncle, Cornelius Welsh. He is reported to have died somewhere in Texas, where he is said to have had extensive oil holdings.

Index To Coming Meetings

Virginia Independent Oil Men's Ass'n., Richmond, Va., Nov. 10.

Wisconsin Independent Oil Jobbers' Association, Assembly Chamber, State Capitol, Nov. 11.

American Association of Petroleum Geologists, New York City, Nov. 15, 16, 17.

American Oil Men's Association, Congress Hotel, Chicago, Nov. 16, 17, 18.

Texas Independent Oil Men's Association, San Antonio, Nov. 12 and 13.

Rocky Mountain Oil & Gas Association, Montana Chapter, Great Falls, Mont., Dec. 1, 2, 3.

American Petroleum Institute, annual meeting. Mayo Hotel, Tulsa, Dec. 7, 8, 9.

Nebraska Independent Oil Men's Association, Hotel Fontennelle, Omaha, Dec. 16, 17.

Michigan Independent Oil Men's Association, Detroit, Feb. 10 and 11, 1927.

American Oil Burner Association, Broadway Auditorium, Buffalo, N. Y., Apr. 5, 6, 7.

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time before the expiration of that period.

As I look the situation over now, it will probably be 12 to 15 months before we can make any additional installations in the western section of the country, but they will be made as fast as the business will permit us. A large number of Independent jobbers are now selling Ethyl gasoline and under our contract plan which I will outline to you shortly, there is no reason why increasing numbers should not get it within a reasonable length of time. The ability to get it from a particular refinery which is not now equipped with mixing facilities will depend solely upon our ability to make the proper arrangements for mixing. This will be done within the limitations which I have outlined to you.

Same Terms to All

WE have two standard forms of contract. One is for use with refining companies for the sale of Ethyl fluid to be mixed with gasoline. This is a non-exclusive contract and has been, since we recommenced business, made with small and large oil companies alike, which plan will be followed in the future. The other form is one that is issued by us to jobbers and resellers, which is a plain license to sell gasoline when mixed with Ethyl fluid and to which should always be attached our trade mark and name. This was done not only for the purpose of protecting our trade mark rights, but especially in order to have the jobbers and their resellers under a direct contract with us, obligating them to dispense Ethyl gasoline to the public in accordance with the rules and regulations of the Surgeon General and also that the anti-knock standard of gasoline so sold should be definitely maintained. Each of these contracts was recently published in the National Petroleum News (page 88, Sept. 29 issue). They are the only forms of agreement which we are making. In other words, we are selling Ethyl fluid only to oil companies with refinery facilities. The price of our product is the same to all, as are all terms and conditions of sale. Our license agreements with jobbers likewise are uniform and no modifications are being made in their issuance. Naturally, we are endeavoring to have them issued only to reputable concerns.

Exclusive Indiana Contract

WE HAVE an exclusive contract with the Standard Oil Co. of Indiana, which covers 11 states in the middle west. This contract was made by our predecessor (The General Motors Chemical Co.) not long after Ethyl gasoline was first put on the market. Although I was not a party to the making of that contract, I can well conceive and have been advised, that at the time it was entered into our predecessor deemed it most desirable to have this product introduced into the American motor fuel market by such an outstanding program as the Standard Oil Co. of Indiana. Some time prior to the incorporation of our company it was extended by our predecessor to March, 1929. I am advised that this was done because the contract had a provision which obligated our predecessor to install mixing devices and supplies of Ethyl fluid at points required by the Indiana company. Because of lack of mixing equipment, as well as the concentrated material, during a large portion of the contract period the chemical company was unable to perform its contract, and in lieu of other damages or considerations, it was finally agreed by those parties that the equitable disposition of the matter would be for the Indiana company to have its exclusive contract extended to the time I have indicated. Accordingly, this was done and later on when the Ethyl Gasoline Corp. was organized, it inherited this exclusive contract.

I wish conditions were such that I could state to each and every one of you gentlemen who might want to sell Ethyl gasoline exactly the time when you could get it from any particular refinery. However, this is obviously impossible for the reasons stated, but certainly a fair proportion of you should have no difficulty in making satisfactory arrangements to get Ethyl gasoline through one or more of the refineries which will be equipped for mixing between now and next summer.

Fred B. Tough Killed In Oil Field Fire

Fred B. Tough

Staff Special—by Telegraph

HOUSTON, Oct. 25.—Fred B. Tough, general superintendent of the Humphreys Corp. at Houston and former chief petroleum technologist of the U. S. Bureau of Mines, lost his life Sunday in an oil fire at Sour Lake, about 20 miles northwest of Beaumont.

T. Chambliss, field employe, and a third person who had not been identified yet today, are also dead.

The fire originated at the Humphreys B-3 well where tubing was being lowered into the well early Sunday morning. Friction is believed to have created a spark which ignited and destroyed the derrick. Later, when the fire had been controlled, a flash occurred at a nearby tank where Mr. Tough was attempting to close a valve. Tough's body is believed to have been buried beneath heavy steel plates from the tanks that were destroyed.

* * *

The contributions made by Frederick B. Tough to the business of producing oil were many. In his work for the Bureau of Mines and for oil companies he originated a number of practices that are standard today. Particularly is he known for his work in oil well repair work where underground waters threatened destruction of fields.

He was born in Baltimore, Md., Dec. 3, 1885. In that city he attended grade and high schools and spent three years in Johns Hopkins University. He was graduated from Columbia University in 1910 with the degree of Engineer of Mines. During the time he was in the higher schools he was employed in summer vacations on surveying work for a coal company in West Virginia.

Mr. Tough entered the oil producing department of the Southern Pacific Railway in 1910 as lease foreman in the Kern River field of California. He was promoted to be resident geologist in the Coalinga field and later to the similar position in the Sunset-Midway, McKittrick and Lost Hills field.

He started his work with the Bureau of Mines in November, 1916, as assistant petroleum engineer. His first work was the making of a complete study of cementing operations in oil fields, the result of which was the publication of Bureau of Mines Bulletin 163, "Methods of Shutting Off Water in Oil and Gas Fields."

During 1919 and part of 1920 he was the engineer in charge of the Rocky Mountain Petroleum Association, an organization financed by operators in Wyoming cooperating with the Bureau of Mines on underground studies in the Wyoming fields. The first of July of the same year he was appointed supervisor of oil and gas operations under the leasing act and in that position he had charge of supervising drilling and production on leased public lands. He built up an efficient organization for handling this work and at all times held the confidence and respect of operators. On Oct. 1, 1922, he was appointed chief petroleum engineer of the Bureau and held that position until July 1, 1925, when the Bureau of Mines was transferred to the Department of Commerce. He remained with the Department of the Interior as chief of the minerals leasing division of the Geological Survey until October 1925 when he resigned to become production superintendent of the Humphreys Corp.

"Mr. Tough made an exceptionally fine record while with the Bureau of Mines," said H. H. Hill, present chief petroleum engineer of the Bureau. "He was extremely popular with his associates and officials of oil companies with whom he had contact."

SPECIAL SU

Well Performance

Compile

THE accompanying tabulation of Texas Panhandle field data, compiled by Paul Wagner, manager of the Houston office of National Petroleum News, combines well records and production figures on most of the completions in the Amarillo territory. Occasional gaps in the tabulation reflect individual well data in question or the lack of detailed information in the records of companies which were used in compiling this report.

In several instances, initial productions shown in the reports of different companies fail to agree; generally because of variances in estimates when wells were not being gauged during their first 24-hour flows. In such cases the compiler has used the most conservative figures from the reports mentioned or has utilized initial production records indicated by later well-performance data to be most nearly correct.

The article explaining this tabulation is published on page 21 in this, Oct. 27, issue of National Petroleum News.

Hutchinson County

Company—Well	Location	Elevation	Date Comp.	Total Depth	Pay Record	Size of Shot	Initial Prod. Before Shot	Initial Prod. After Shot	Daily Prod. 10-8-26
Alaska Oil Co.									
Cockrell 1	D & S E S-2, B-B5		9-11-26	3035	2930-2949	210 qts.	40	150	70
Amerada Petroleum Corp.									
G. A. Whittenburg 1	H & T C S-21, B-47							....	
G. A. Whittenburg 2	H & T C S-21, B-47		9- 4-26	3000		50 qts.	40	120	110
J. A. Whittenburg 1-A	H & T C S-20, B-47		(Record On One Well Missing)						
J. A. Whittenburg 3-A	H & T C S-20, B-47		9-23-26		2915-2965		75		115
J. S. Whittenburg B-1	S-89, B-Z	3065	7-12-26	3036	2988-3034	50 qts-510 qts.	25	75-150	
J. S. Whittenburg B-2	S-89, B-Z		8-19-26		2877-2958	390 qts.		35	
J. S. Whittenburg B-3	S-89, B-Z	3101	8- 2-26	3055	2975-3051	360 qts.	15	5/8 55	
J. S. Whittenburg B-4	S-89, B-Z		8-28-26	3020		50 qts.	300		
J. S. Whittenburg B-5	S-89, B-Z		10- 7-26		2982-3032	50 qts.	110		260
American Refining Co.									
Whittenburg 1	D S & E B-4								
Whittenburg 2	D S E E B-4		8-14-26	2784	2760-2780	100 qts.	60	....	70
Apex Oil Co.									
Smith 1	M & C S-11, B-Y	2957	7- 1-26	2941	2880-2939	380 qts.	30	479	
Smith	M & C S-11, B-Y		8- 5-26		2768-2882		400		240
Badger Oil Co.									
Lewis 1	S-8, B-M 25	2990	5- 4-26	2960			450		
Lewis 2	S-8, B-M 25		9- 4-26	2990		160 qts.	65 heads	50	205
R. G. Barnum Et Al									
Johnson 1	A & B S-37, B-Y		11-15-25	2961		310 qts.	65M Gas	20	30
Buffalo Oil Co.									
Smith 1	M & C S-14, B-Y		9-25-26	3083	2997-3077	300 qts.		200	35
Canadian River Oil Co.									
Kingsland 1	M & C S-4, B-Y	2956	2-15-26	2938		200 qts.	50	90	
Kingsland 2	M & C S-4, B-Y	3071	5-12-26	3045			40 Swab		
Kingsland 3	M & C S-4, B-Y		5-17-27	2967			40 Swab		
Kingsland 4	M & C S-4, B-Y		5-25-26	2934			140		490
Canyon Oil & Gas Co.									
Whittenburg 1	M & C S-12, B-Y	2914	5-12-26	2802			205		
Whittenburg 3	M & C S-12, B-Y		5-12-26	2883			1000		
Whittenburg 4	M & C S-12, B-Y		10- 2-26	2780			1440		
Whittenburg 5	M & C S-12, B-Y		9-25-26	2805			1600		
Whittenburg 6	M & C S-12, B-Y		10- 2-26	2715			5200		
Whittenburg	M & C S-12, B-Y		(Record On One Well Missing)						15,000
Centerfield Oil Co.									
H. E. Smith 1	M & C S-10, B-Y	2980	1-21-26	2930		80 qts.	Show	35 first hr.	5
Coble-Whittenburg									
Whittenburg 2	M & C S-12, B-Y		5-18-26	2980		210 qts.	980		
Whittenburg 4	M & C S-12, B-Y	3010	7- 3-26	2915	2845-2903		64		
Whittenburg 1	M & C S-12, B-Y		10- 2-26	2835	(Plugged back)		480		1000
Whittenburg 3	M & C S-12, B-Y		8-19-26		2742-2759	40 qts.		150	
Center Dome Oil Co.									
Pritchard 1	D & S E B-4		8-14-26	2785			75		22
Currie-Phillips									
H. E. Smith 1	M & C S-14, B-Y	3016	5-20-26	3030		600 qts.	105	5580	
H. E. Smith 2	M & C S-14, B-Y								112
Delmar Oil Co.									
Grace Johnson 1	M & C S-20, B-Y		8-28-26	2974			100		38
Devonian Oil Co									
Johnson 3	M. Whitley Sur.		8-14-26	2922			400		
Johnson 2	M. Whitley Sur.		8- 5-26		2941-2963	120 qts.		2400	520
Johnson	M. Whitley Sur.		(Record Of One Well Missing)						
Derby Oil Co.									
Johnson 1	M. Whitley Tract 8		6- 3-26	2981			300		
Johnson 2	W. Whitley Tract 8	3079	7-29-26	2977	2936-2977	30 qts.	1000		360
Johnson-Keaton 1	M & C S-20, B-Y		8-14-26	3023			75		880
Cockrell-McIlroy									
Smith 1	M & C S-14, B-Y		6- 3-26	3010		300 qts.	75	120	
Smith 3	M & C S-14, B-Y		8-28-26	2759			100		
Smith	M & C S-14, B-Y		(Record Of Two Wells Missing)						
Smith	M & C S-14, B-Y								520
Douglas Oil Co.									
Whittenburg 1	H & O B S-15, B-XO2	3132	7-13-26	3094	3028-3084	300 qts.	30	65	20
Double Five Oil Co.									
Cockrell 1	M & C S-2, B-Y								72
E. J. Dunigan									
Johnson 1	A & B S-21, B-Y		8-14-26	2920			100		680
Dunigan Et Al									
Whittenburg 1	M & C S-13, B-Y	3064	4-20-26	3026		300 qts.	Show	887	
Whittenburg 2	M & C S-13, B-Y		9- 2-26	3010	2945-2975		25		275
Dixon Creek Oil Co.									
Smith 13	M & C S-14, B-Y		7-23-26	2862	2817-2862	180 qts.		720	
Smith 1	M & C S-14, B-Y		4-11-25	2960			275		
Smith 2	M & C S-14, B-Y		1- 2-26	2730			75	Junked	
Smith 18	M & C S-14, B-Y	3029			2955-2985	80 qts.	60	2400	
Smith 17	M & C S-14, B-Y	3032	7-22-26	2840			Gas		
Smith 15	M & C S-14, B-Y	3029	7-17-26	2988	2900-2987	360 qts.	800	1024	
Smith 14	M & C S-14, B-Y	3012	6-15-26	2895	2867-2895		850		
Smith 20	M & C S-14, B-Y		10- 2-26	2945	2902-2945		200		
Smith 2-A	M & C S-11, B-Y	2990	1-28-26	2867			1500		
Smith 3	M & C S-11, B-Y	2983	7-15-26	2872	2840-2872		4132		
Smith 4	M & C S-11, B-Y	2995	6-26-26	2973	2913-2973	230 qts.	120	240	
Smith 5	M & C S-11, B-Y	2912	6-26-26	2890	2814-2890	410 qts.	200	540	
Smith 6	M & C S-11, B-Y	2982	7-12-26	2918	2960-2912		200		
Smith 8	M & C S-11, B-Y	3012	6-23-26	2997	2920-2996	240 qts.	25	200	
Smith 9	M & C S-11, B-Y	2992	7-10-26	2990	2832-2900	120 qts.	160	600	
Smith 7	M & C S-11, B-Y		8-14-26	2815			200		
Smith 10	M & C S-11, B-Y		7-30-26	2821	2815-2821		5000		
Smith 36	M & C S-11, B-Y		7-23-26		2777-2790	220 qts.		400	
Smith 29	M & C S-5, B-Y		6-10-26	2900	2810-2900	180 qts.	180	600	
Smith 34	M & C S-5, B-Y		7-30-26		2722-2794	260 qts.	1000		
Smith 33	M & C S-5, B-Y		7-23-26		2720-2815	300 qts.		771	
Smith 21	M & C S-12, B-Y	2886	6-17-26	2840	2783-2840	220 qts.	150	720	7056
Echo Oil Co.									
Smith 2	M & C S-11, B-Y		7-15-26	2901	2845-2901	210 qts.		350	
Smith 3	M & C S-11, B-Y		8-28-26	2761			350		
Smith 4	M & C S-11, B.Y		9-18-26	2856		Shot 100 qts.	75	200	1840
Empire Gas & Fuel Co.									
Johnson B-1	A & B S-21, B-Y		8-14-26	2882			265		138
Whittenburg 1	H & T C S-73, B-46	2995	9- 4-26	2919	2902-2913	120 qts.		255	Off
Johnson A-1	H & T C 68, B-46	3005	8- 5-26	2937	2900-2937	160 qts.	400		15
Weatherly 1	M & C S-19, B-Y	3093	7-26-26	3059	2987-3050	320 qts.	100	900	
Weatherly 2	M & C S-19, B-Y		9-18-26	3036		150 qts.		200	
Weatherly 5	M & C S-19, B-Y		10- 2-26	3015	2972-3015		8000		
Weatherly 7	M & C S-19, B-Y		9-25-26	3006	2920-3040	120 qts.	200	220	6362
Fly-Blackburn									
Weatherly 1	M & C S-19, B-Y		5-27-26	3038			156-		
Weatherly 2	M & C S-19, B-Y		8-28-26	2960			50-		275

Company—Well	Location	Elevation	Date Comp.	Total Depth	Pay Record
Gates Oil Co. (F. E. Kistler et al)					
Kingsland 1	M & C S-4, B-Y	3086	2-17-25	2958	
Kingsland A-1	M & C S-4, B-Y	3074	5-13-26	3028	
Kingsland 2	M & C S-4, B-Y	3074	5-13-26	3030	
Kingsland 3	M & C S-4, B-Y		6- 3-26	3040	
Kingsland 4	M & C S-4, B-Y		5-20-26	3033	
Goldeline Oil Co.					
Whittenburg A-2	H & T C S-27, B-27		8-26-26	2967	2872-
Whittenburg B-1	S-89, B-Z		9-11-26	3015	
Golding-Phillips					
Hodges 1	J T H S-1A, B-M 26	2865	7-22-26	2800	2733-
Gulf Ptoduction Co.					
Johnson 10	H & T C S-70, B-46		10- 7-26		2872-
Johnson 1	H & T C S-66, B-46	3011	8- 7-26	2960	2928-
Johnson 2	H & T C S-66, B-46	2956	8- 4-26	2905	2840-
Johnson 3	H & T C S-66, B-46		8-26-26	2944	2890-
Johnson 4	H & T C S-66, B-46				
Johnson 5	H & T C S-66, B-46			2912	
Johnson 6	H & T C S-66, B-46		9-23-26		2915-
Johnson 7	H & T C S-66, B-46		9- 4-26	2982	
Johnson 8	H & T C S-66, B-46		9-23-26		2910-
Dial 1	G C S-90, B-Z		1-29-23	3735	
Dial 3	G C S-90, B-Z				
Dial 4	G C S-90, B-Z				
Dial 2	H & G N S-2, B-1		6-18-25	2905	
Dial 5	H & G N S-2, B-1		11-25-25	2997	
Dial 6	H & G N S-1, B-1	2992	4-19-26	2927	
Dial 8	H & O B S-1, B-XO2		5-13-26	2953	
Dial 9	T C R R S-34, B-M23				
Dial 10	H & T C S-24, B-47		7-23-26		2845-
Dial 13	H & G N S-1, B-1		8-14-26	2948	
Dial 7	H & T C S-25, B-47		5-20-26	2795	
Dial 11	S-90, B-Z		8-19-26		2950-
Dial 12	S-90, B-2		8-28-26	3012	2915-
Dial 14	H & G N S-1, B-1		9- 4-26	2900	
Dial 15	H & T C S-24, B-47		9- 4-26	2916	
Dial 17	H & T C S-35, B-47		10- 2-26	2795	
Dial 18	H & T C S-35, B-47		8-26-26		2750-
Dial 19	H & T C S-25, B-47		10- 2-26	2845	2810-
Dial 20	H & T C S-25, B-47				2885-
Dial 25	H & O B S-1, B-XO2		9-25-26	2936	
Dial 26	La Sater S-16, B-XO2		9-25-26	3023	2999-
Dial 21	S-1, B-XO2		9- 9-26	2895	2875-
Dial 22	H & O B S-1, B-XO2		10- 2-26	2799	
Dial 16	H & G N S-1, B-1		10- 7-26		2770-
Dial 23	H & G N S-1, B-1		10- 2-26	2810	
Dial 24	H & G N S-1, B-1		9-25-26	2832	2812-
Clinefee 2	Hedge Coke S-4		9-25-26	2980	2935-
Hodges 1	T C R R S-5, B-M21				
Christian	M. Anglin Sur.		8-28-26	2973	2912-
W. S. Christian	Strip (31 acres)				
Whittenburg B-1	H & O B S-89, B-Z	3072	6- 3-26	3023	
Whittenburg B-2	H & O B S-89, B-Z		8-28-26		
Whittenburg B-3	H & O B S-89, B-Z		9- 4-26	3065	
Whittenburg B-4	H & O B S-89, B-Z		(Records Of Two Wells M		
Whittenburg D-1	H & O B S-2, B-XO2				
Whittenburg D-2	H & T C S-27, B-47		7-22-26		2728-
Whittenburg E-3			9-23-26		2675-
Whittenburg E-1	H & T C S-65, B-46		5-28-26	2730	
Whittenburg E-2	H & T C S-65, B-46		10- 7-26	2804	
Whittenburg E-4	H & T C S-65, B-46		10- 7-26		2736-
Whittenburg A-1	M. Whitley Sur.		9-28-26	2997	2914-
Whittenburg A-2	M. Whitley Sur.				
Whittenburg A-3	M. Whitley Sur.	3020	8- 7-26	2935	2915-
Whittenburg A-4	M. Whitley Sur	2961	6- 7-26	2892	2865-
Whittenburg A-5	M. Whitley Sur.		8-28-26	2851	2836-
Whittenburg A-6	M. Whitley Sur.		10- 7-26	2910	2868-
Whittenburg 1	M. Whitley Sur.		(Record Of One Well Mis		
Whittenburg 2	W. Whitley Sur.		5- 6-25	2976	
Whittenburg 3	M. Whitley Sur.	2984	7-26-26	2945	2936-
Whittenburg 4	M. Whitley Sur.				
Whittenburg 5	M. Whitley Sur.		7-23-26		2900-
Gwynn, McKnight et al					
Smith 1	M & C S-12, B-Y	2815	7-10-26	2784	2736-
Smith 2	M & C S-12, B-Y		8-15-26	2765	2748-
Smith 3	M & C S-12, B-Y		(Record Of One Well Mi		
Herring-McIlroy					
H. E. Smith 4	M & C S-5, B-Y		7-29-26	2813	2785-
H. E. Smith 3	M & C S-5, B-Y		8- 5-26		2770-
H. E. Smith 2	M & C S-5, B-Y		(Record Of Two Wells M		
H. E. Smith 1	M & C S-5, B-Y				
Scott Heywood					
W. S. Christian 1	S-31A, B-V		7- 1-26		3068-
Holmes & Huey					
H. W. Smith 1	M & C S-12, B-Y		5-13-26	2914	
J. K. Hughes Developing Co.					
Kingsland A-10	M & C S-6, B-Y		8-19-26		2740-
Kingsland A-2	M & C S-6, B-Y	3002	6-18-26	2974	2930-
Kingsland A-16	M & C S-6, B-Y		10- 2-26	2960	2835-
Kingsland A-4	M & C S-6, B-Y		8-28-26	2967	
Kingsland A-5	M & C S-6, B-Y	2997	7- 1-26	2966	2916-
Kingsland A-6	M & C S-6, B-Y	2876	7-10-26	2875	2825-
Kingsland A-7	M & C S-6, B-Y	2853	7-29-26	2844	2819-
Kingsland A-17	M & C S-6, B-Y	3024	8-15-26	2991	2925-
Kingsland A-9	M & C S-6, B-Y	2831	7-26-26	2803	
Kingsland A-11	M & C S-6, B-Y	2948	7-28-26	2914	2895-
Kingsland B-1	D & S E S-6, B-4	2859	8- 2-26	2839	2815-
Kingsland B-2	D & S E S-6, B-B4		9-18-26	2924	
Kingsland B-3	D & S E S-6, B-B4		10- 2-26	2614	
Kingsland B-4	D & S E S-6, B-B4		9-23-26		2705-
Kingsland B-5	D & S E S-6, B-B4		10- 7-26		2922-
Hutchinson County Oil Co.					
Smith 1	M & C S-8, B-Y				
Japhet Oil Co.					
Smith 2	M & C S-11, B-Y		8-14-26	2762	
Smith 3	M & C S-11, B-Y		10- 2-26	2726	
Smith 4	M & C S-11, B-Y		9-11-26	2722	2664-
Kistler, McIlroy et al					
Smith 1	M & C S-14, B-Y				
Smith 2	M & C S-14, B-Y		9-18-26	2994	
Smith 4	M & C S-14, B-Y		9-16-26	3017	2933-
Smith 8	M & C S-14, B-Y		9-23-26		2876-
Smith 6	M & C S-14, B-Y		10- 7-26		2926-
J. H. Lenix					
Johnson 1	M. Whitley Tract 2		7- 3-26	2992	2943-
Lenix-Patterson					
H. E. Smith 1	M & C S-11, B-Y	3033	4-15-26	2999	
Lucky Ten Oil Co.					
H. E. Smith 1	M & C S-11, B-Y		5-23-26	3013	
H. E. Smith 2	M & C S-11, B-Y		10- 7-26	2796	2708-
H. E. Smith 3	M & C S-11, B-Y		10- 7-26		2670-
				(Completing)	
Marland Oil Co. of Texas					
Johnson A-1	M & C S-20, B-Y		8-12-26	2939	2898-
Johnson A-2	M & C S-20, B-Y		8-14-26	2950	
Johnson A-3	M & C S-20, B-Y		8- 5-26	3020	2958-
Hohnson A-4	M & C S-20, B-Y		8-28-26	3015	
Weatherly 1	M & C S-17, B-Y		10-25-25	3030	
Weatherly A-1	M & C S-19, B-Y		8-14-26	3025	
Weatherly A-4	M & C S-19, B-Y		9-23-26	3032	
Weatherly B-1	M & C S-19, B-Y		8-28-26	3044	
Weatherly B-2	M & C S-19, B-Y		9- 4-26	3050	
Weatherly C-1	M & C S-19, B-Y		9-11-26	3045	2970-
Weatherly C-2	M & C S-19, B-Y		9-11-26	3020	
Weatherly C-3	M & C S-19, B-Y		9-28-26	3025	2960-
Whittenburg 1	H & T C S-65, B-46		9-28-26	2824	
Whittenburg 2	H & T C S-65, B-46		8-26-26		2860-
Whittenburg 4	H & T C S-65, B-46		9-25-26	2935	
Whittenburg 5	H & T C S-65, B-46		9-25-26	2984	
Whittenburg A-1	M. Whitley Sur.		9- 2-26	2928	2897-
Whittenburg A-2	M. Whitley Sur.		8-26-26		2914-
Whittenburg A-3	M. Whitley Sur.		8- 5-26		2937-
Whittenburg A-5	M. Whitley Sur.		8-14-26	3004	
Whittenburg A-6	M. Whitley Sur.		8-28-26	2975	

and Completions Data on Panhandle Oil

d by Paul Wagner, Manager, Houston Office, National Petrole

y ord	Size of Shot	Initial Prod. Before Shot	Initial Prod. After Shot	Daily Prod. 10-8-26
		80		
		65	70	
	115 qts.	Show	75	420
	70 qts.	Show	400	
2967		120		90
		100		220
2787	120 qts.	40	20	Off
2919	80 qts.		172	52
2960	60 qts.	150	342	
2905	60 qts.	182	322	
2938	110 qts.		32	
	Cleaning Out			
	Cleaning Out			
2930		50		
	80 qts.	100	600	
2940		1200		1119
	210 qts.	90	180	
				100
				13
		265		
	400 qts.		200	365
		1580		1200
		375		300
				30
2895	75 qts.		647	
		160		550
		175		120
2990		30		30
3000	210 qts.	320	320	150
	75 qts.		700	500
	75 qts.		215	225
		300		
2787		325		700
2845	50 qts.		300	80
2923	38 qts.	Cleaning Out		40
		240		1500
3023		60		30
		1400		750
	30 qts.	30	80	125
2810	60 qts.		200-	
	120 qts.		205-	325
2832	40 qts.		1085	625
2980	250 qts.	165	420	350
				20
2973	230 qts.	17	140	125
				60
		90		
	140 qts.	150	250	
		230		
(issing)				170
2730		100		22
2740	80 qts.	5		
	40 qts.		15	
	Cleaning Out			
2770	70 qts.	Cleaning Out		16
2946		310		
		662		
2935		930		
2892	75 qts.	475	2540	
2846	40 qts.	792		
		160		2454
sing'				
		830		
2945	80 qts.	100	250	
2957	Shot	35		457
2784	240 qts.	180	700	
2765	390 qts.		300	
sing)				500
2813	300 qts.	20	800	
2816			650	
ssing)	270 qts.			
				475
3103		50		60
				45% water
	220 qts.	192	750	210
2806		155		
2974	90 qts.	130	700	
	160 qts.		150	
		100		
2966	90 qts.	80	300	
2875	330 qts.	30	140	
2844	150 qts.		150	
2991	120 qts.	125	900	
	160 qts.		148	
2914	300 qts.		600	1745
2839	370 qts.	90	1200	
	Shot	100	280	
		4M Gas		
2780		25		
2993		100		450
				Off
	80 qts.		800	
		200		
2688	90 qts.	100	300	640
		480		
3011	520 qts.		1680	
2954	300 qts.		1200	1775
2995		65		65
2960	20 qts.	15	62	Off
	505 qts.		5850	171
	360 qts.	15	10,000	
	(Completing)			
		100		693
2939		200		
		1170		
3020	120 qts.		1680	
		5000		7117
	150 qts.	250	50	25
		120		
	50 qts.		46	42
		300		
	80 qts.		100	120
3039		120		
	60 qts.		67	
3020	60 qts.	Gas		146
	60 qts.		75	
2890	80 qts.		90	
		100		
	80 qts.		260	315
2916	60 qts.		270	
2943	80 qts.		157	
3003			1872	
			2607	
	70 qts.		3000	

Company—Well	Location	Elevation	Date Comp.	Total Depth	Pay Record	Size of Shot	Initial Prod. Before Shot	Initial Prod. After Shot	Daily Prod. 10-8-26
Whittenburg A-7	M. Whitley Sur.		9-25-26	2995		70 qts.		550	
Whittenburg A-8	M. Whitley Sur.		9-25-26	2966	2958-2965	10 qts.		792	8212
Belle Wisdom 1	T C R R S-35, B-M 23		7-28-26		3019-3068	320 qts.		720	20
Perkins 1	H & O B S-1, B-XO2		9- 4-26	2795		40 qts.		215	
Perkins 2	H & O B S-1, B-XO2		9- 4-26	2913		20 qts.	430	700	
Perkins 3	H & O B S-1, B-XO2		8-19-26		2932-2945	10 qts.		385	
Perkins 4	H & O B S-1, B-XO2		9- 4-26	2915	2875-2895	40 qts.		260	
Perkins 5	H & O B S-1, B-XO2		9-18-26	2810	2797-2810	40 qts.		500	
Perkins 6	H & O B S-1, B-XO2		9- 4-26	2810	2770-2800	60 qts.		285	
Perkins 7	H & O B S-1, B-XO2		9- 4-26	2917	2902-2917	60 qts.		900	
Perkins 8	H & O B S-1, B-XO2		9- 4-26	2936	2910-2920	20 qts.		250	1667
Perkins A-1	H & O B S-16, B-XO2		9-23-26		2980-3050	60 qts.	180		50
McIlroy Oil Co.									
Smith 1	M & C S-5, B-Y								
Smith 2	M & C S-5, B-Y		(Record Of Three Wells Missing)						
Smith 2	M & C S-5, B-Y								300
Heywood Et Al (McSpadden)									
Cockrell 1	D & S E S-10, B-3	3059	5-15-26	3040		270 qts.	15	240	40
McMan Oil & Gas Co.									
Smith-Holmes	M & C S-5, B-Y	2802	6- 2-26	2763		160 qts.		1720	
Smith-Holmes 3	M & C S-5, B-Y	2809	6- 2-26	3115				980	
Smith-Holmes 8	M & C S-5, B-Y		9-25-26	2784		210 qts.		720	
Smith-Holmes 6	M & C S-5, B-Y		8- 5-26		2698-2740		250		
Smith Holmes 5	M & C S-5, B-Y		7-15-26	2768	2709-2761	170 qts.		275	
Smith-Holmes 7	M & C S-5, B-Y		10- 7-26		2706-2772	Shut Down for Shot			
Smith-Holmes 4	M & C S-5, B-Y		(Record Of One Well Missing)						3220
Wheatley 1	H & T C S-66, B-46		8-21-26	2901		160 qts.	20	100	
Wheatley 2	H & T C S-66, B-46		8-21-26	2904			290		
Wheatley 3	H & T C S-66, B-46		10- 7-26	2904	2838-2901	105 qts.		10	23
Martin-Gray	A & B S-21, B-Y		8-14-26	2942			1770		
Martin-Gray 2	A & B S-21, B-Y		9-18-26	2957			300		
Martin-Gray 3	A & B S-21, B-Y		10- 7-26		2950-2953		1000		2400
Whittenburg 2	H & T C S-65, B-46		9- 4-26	2915		130 qts.		50	
Whittenburg 3	H & T C S-65, B-46		9- 4-26	2918		130 qts.		100	140
Middleton Et Al									
Weatherly 1	M & C S-18, B-Y		9-12-26	3128			300 Swab		25
Smith 1	M & C S-15, B-Y		7-15-26	2925	2881-2910	160 qts.	Show	10	
Smith	M & C S-15, B-Y	2897	7-15-26	2870	2812-2866	160 qts.	10	10	35
Midwest Exploration Co.									
Holmes 3	M & C S-5, B-Y	2897	6-25-26	2862	2751-2862	140 qts.	40		
Holmes 1	M & C S-5, B-Y		7-30-26		2746-2796	160 qts.		450	
Holmes 2	M & C S-5, B-Y			2780	Shut Down				170
Currie 1	M & C S-5, B-Y		7-25-26	2796	2746-2796	160 qts.	300	427	120
Barnum 1	H & T C S-70, B-46		8-26-26		2660-2670		180		Off
Tyrell 1	M & C S-12, B-Y		10- 2-26	2752			175	?	1000
Minnehoma-Kistler									
Johnson 1	M & C S-20, B-Y		9-25-26	3044	2981-3021	40 qts.		150	75
Murchison & Fain									
W. D. Twitchell 1	Twitchell Sur.		8- 2-26	2950	2917-2950	150 qts.	200	750	425
Newby Oil Co.									
Cockrell 1	M & C S-3, B-Y	3069	4- 6-26	3085		150 qts.		450	
Cockrell 2	M & C S-3, B-Y		10- 7-26	3035	2976-3035	160 qts.		100	100
New Domain Oil Co.									
Kingsland 1	M & C S-4, B-Y	2965	6-18-26	2941	2887-2941	512 qts.	10	30	
Kingsland 2	M & C S-4, B-Y		9- 4-26	2989	2954-2989		100		110
Berten 1	A & B S-33, B-Y		8-21-25	3090					25
J. R. Phillips-Blasdell									
Weatherly 1	M & C S-18, B-Y	3127	4-8 -26	3105		90 qts.		128	25
J. R. Phillips-Heywood									
Smith 1	M & C S-14, B-Y		(Record Of One Well Missing)						
Smith 2	M & C S-14, B-Y		9-11-26	3042			75		1500
Phillips Petroleum Co., & Barnum									
Barnett 2	H & T C S-64, B-46	2820	8- 7-26	2784	2740-2784		600		
Barnett	H & T C S-64, B-46		8-14-26	2796			2400		5529
Phillips Petroleum Co., & Coble									
Whittenburg 3	M & C S-13, B-Y	3013	7- 3-26	2953	2947-2953	100 qts.	Show	1500	
Whittenburg 4	M & C S-13, B-Y	3017	6-23-26	2960	2922-2960	60 qts.	250	1500	
Whittenburg 5	M & C S-13, B-Y	3020	7-25-26	2935	2895-2935		125		
Whittenburg 7	M & C S-13, B-Y		7- 8-26	2990	2968-2974	120 qts.	100		
Whittenburg 8	M & C S-13, B-Y		7-20-26	2965	2952-2965	80 qts.	125	450	
Whittenburg 13	M & C S-13, B-Y		8-21-26	2938		100 qts.		400	
Whittenburg 15	M & C S-13, B-Y		8-21-26	2991	2920-2979	100 qts.		600	
Whittenburg 14	M & C S-13, B-Y		10- 2-26	2993	2960-2993		75		
Whittenburg 11	M & C S-13, B-Y		8-14-26	2968		60 qts.		100	
Whittenburg 12	M & C S-13, B-Y		8-12-26	2990	2894-2990		100		
Whittenburg 9	M & C S-13, B-Y		7-23-26		2900-2945		600		
Whittenburg	M & C S-13, B-Y								
Whittenburg	M & C S-13, B-Y		(Record Of Six Wells In						
Whittenburg	M & C S-13, B-Y		Section 13, Block Y, Missing						
Whittenburg	M & C S-13, B-Y								
Whittenburg	M & C S-13, B-Y								
Whittenburg	M & C S-13, B-Y								5529
Phillips Petroleum Co., & Dorsett									
Johnson 1	H & T C S-64, B-46		9-25-26	2736			300		115
Phillips Petroleum Co., & Finklea									
Johnson 1	M. Whitley Sur.		(Records Of One Well Missing)						417
Phillips Petroleum Co., & Gibson Oil Co.									
Whittenburg 1	M. Whitley Lot 23	2965	4- 8-26	2941		90 qts.		30	
Whittenburg 2	M. Whitley Lot 23								
Whittenburg 3	M. Whitley Lot 23		7-31-26	2773	2760-2773	100 qts.	175	700	
Whittenburg 4	M. Whitley Lot 23		(Records Of Two Wells Missing)						628
Kingsland 1	M & C S-4, B-Y		9- 2-26	2849	2798-2849	140 qts.		176	126
Phillips Petroleum Co., & Jerry									
Whittenburg 4	M & C S-12, B-Y		7-29-26	2915	2878-2915	100 qts.		4800	
Whittenburg 2	M & C S-12, B-Y	2912					805		
Whittenburg 5	M & C S-12, B-Y		8-21-26	2881			640		
Whittenburg 3	M & C S-13, B-Y		10- 7-26	2825	2721-2825		200		4200
Phillips Petroleum Co.,—Kingsland									
Kingsland 1	D & S E S-6, B-B4		(Record Of One Well Missing)						95
Phillips Petroleum Co.—Jeannette Kingsland									
Kingsland 1	M & C S-4, B-Y		7-30-26		2827-2860	80 qts.		86	53
Phillips Petroleum Co.—Gordon									
Johnson 1	A & B S-21, B-Y		8-28-26	2790	2920-2955		1680		
Johnson 2	A & B S-21, B-Y		10- 7-26	2963	2932-2963	80 qts.		1320	
Johnson 3	A & B S-21, B-Y		10- 7-26		2915-2935		600		2806
Phillips Petroleum Co.—Graham									
Johnson 3	M. Whitley Tract S	3059	8- 8-26	2984	2940-2984	60 qts.	100	420	344
Phillips Petroleum Co.—Haines									
Johnson 1	M. Whitley Lot 21		9- 4-26	2920			300		
Johnson 2	M. Whitley Lot 21		9- 4-26	2924			400		1127
Phillips Petroleum Co. (Mary Huff)									
J. A. Whittenburg 1	M & C S-12, B-Y	2984	7-12-26	2900	2830-2899	100 qts.	276	1178	
J. A. Whittenburg 3	M & C S-12, B-Y	2997	7-29-26	2951	2913-2951	80 qts.		150	
J. A. Whittenburg 2	M & C S-12, B-Y		7-23-26	2898	2844-2885	80 qts.	75	200	
J. A. Whittenburg 4	M & C S-12, B-Y		8-12-26		2852-2882	60 qts.		300	1057
Phillips Petroleum Co—Patton									
Whittenburg 1	M. Whitley Sur.		(Record Of One Well Missing)						
Whittenburg 2	M. Whitley Sur.		9-18-26	2914	2873-2914	80 qts.		200	
Whittenburg 3	M. Whitley Sur.		9-25-26	2897			175		
Whittenburg 4	M. Whitley Sur.		9-25-26	2929			100		
Whittenburg 5	M. Whitley Sur.		9-25-26	2808			100		581
Phillips Petroleum Co.—Pulaski—Whittenburg									
Johnson	M. Whitley Sur.	2994	6- 1-26	2945		40 qts.	45	57	
Johnson	M. Whitley Sur.		(Record Of One Well Missing)						1003
Phillips—Pulaski—Smith—Capers									
Smith-Capers 3	M & C S-12, B-Y	2920	8-13-26	2732	2688-2732	100 qts.		1300	
Smith-Capers 2	M & C S-12, B-Y		8-14-26	2948		120 qts.	960		
Smith-Capers 1	M & C S-12, B-Y		(Record Of One Well Missing)						643
Phillips-Gibson									
Whittenburg 1	H & T C S-62, B-46	2976	7-18-26	2939			240		
Whittenburg 2	H & T C S-62, B-46		5- 6-26	2924		60 qts.	180	210	
Whittenburg 1	H & T C S-63, B-46	2965	4- 8-26	2941		90 qts.		30	
Whittenburg 2	H & T C S-63, B-46		(Record Of One Well Missing)						
Whittenburg 3	H & T C S-63, B-46		7-30-26	2773	2760-2773	100 qts.	175	700	
Whittenburg 4	H & T C S-63, B-46	2813	7-17-26	2784	2632-2710	80 qts.	100	400	
Whittenburg 5	H & T C S-63, B-46		8-21-26				75		
Whittenburg 6	H & T C S-63, B-46		8-21-26				200		
Whittenburg 7	H & T C S-63, B-46		8-21-26	2726			200		1140
Phillips-Whittenburg									
Whittenburg 2	M & C S-12, B-Y	3039	5-13-26	2999		100 qts.	415	314	
Whittenburg 3	M & C S-12, B-Y		7-10-26	3008	2927-2991	60 qts.	60		444

Company—Well	Location
Phillips-Williams-Johnson	
Johnson 1	M. Whitley Tract 7
Johnson 2	M. Whitley Tract 7
Phillips-Walling	
Johnson 1	M. Whitley Tract 6
Phillips Petroleum Co. (Jennie Wright)	
Kingsland 1	M & C S-5, B-Y
Kingsland	M & C S-5, B-Y
Kingsland	M & C S-5, B-Y
Kingsland	M & C S-5, B-Y
Phillips Petroleum & Prairie Oil & Gas Co.	
Johnson A-6	M & C S-20, B-Y
Johnson A-8	M & C S-20, B-Y
Johnson A-7	M & C S-20, B-Y
Johnson A-10	M & C S-20, B-Y
Johnson A-11	M & C S-20, B-Y
Johnson A-12	M & C S-20, B-Y
Weatherly 1	A & B S-23, B-Y
Weatherly 2	A & B S-23, B-Y
Weatherly 3	A & B S-23, B-Y
Weatherly 7	M & C S-19, B-Y
Weatherly 8	M & C S-19, B-Y
Johnson A-13	A & B S-21, B-Y
Johnson A-14	A & B S-21, B-Y
Johnson A-15	A & B S-21, B-Y
Johnson A-16	A & B S-21, B-Y
D & S E R R A-2	M. Whitley Sur.
Prairie Oil & Gas Co.	
Johnson B-2	D & S E B-4
Johnson A-5	H & T C S-64, B-46
Johnson A-17	H & T C S-64, B-46
Johnson A-1	A & B S-22, B-Y
Whittenburg 1	M. Whitley Sur.
Roxana Petroleum Corp.	
Smith A-1	M & C S-14, B-Y
Smith A-2	M & C S-14, B-Y
Smith A-3	M & C S-14, B-Y
Smith B-1	M & C S-11, B-Y
Smith B-2	M & C S-11, B-Y
Smith B-3	M & C S-11, B-Y
Smith B-4	M & C S-11, B-Y
Smith B-5	M & C S-11, B-Y
Riley-Holmes	
Smith	M & C S-11, B-Y
Smith 2	M & C S-11, B-Y
Riley (Hills)	
Smith 1	M & C S-12, B-Y
Relief Oil Co.	
Smith 1	M & C S-11, B-Y
Smith 3	M & C S-11, B-Y
Smith 4	M & C S-11, B-Y
Smith 2	M & C S-11, B-Y
Ryan Consolidated Oil Co.	
Johnson 1	M. Whitley Tract 9
Johnson 2	M. Whitley Tract 9
Johnson 3	M. Whitley Tract 9
Skelly Oil Co.	
Johnson 1	M. Whitley Tract 2
Powell 1	M & C S-20, B-Y
Powell 2	M & C S-20, B-Y
Powell 3	M & C S-20, B-Y
Powell 4	M & C S-20, B-Y
Whittenburg 1	M. Whitley Sur.
Whittenburg 2	M. Whitley Sur.
Whittenburg 4	M. Whitley Sur.
Whittenburg 5	M. Whitley Sur.
Cunningham 1	D & S E S-4, B-B4
Cunningham 2	D & S E S-4, B-B4
Cunningham 3	D & S E S-4, B-B4
Griffin-Pritchard	D & S E S-3, B-B4
Skiatex Oil Co.	
Kingsland 1	M & C S-6, B-Y
Kingsland 2	M & C S-6, B-Y
Kingsland 4	M & C S-6, B-Y
Smith & Bynum	
Smith 1	M & C S-12, B-Y
Smith 2	M & C S-12, B-Y
J. L. Smith	
Smith 1	M & C S-7, B-Y
Smith 2	M & C S-7, B-Y
Spring Creek Oil Co.	
Smith 1	M & C S-5, B-Y
Smith 2	M & C S-5, B-Y
Smith 3	M & C S-5, B-Y
Smith 4	M & C S-5, B-Y
Sunburst Oil Co.	
Smith 1	M & C S-14, B-Y
Smith 2	M & C S-14, B-Y
Sunrise Oil Co.	
Lyle 1	E L R R S-33, B-Z
Sunny Jim Oil Co.	
Pitts 1	T C R R S-7, B-M 2
Pitts 2	T C R R S-7, B-M 2
Whittenburg 1	M & C S-12, B-Y
Whittenburg 2	M & C S-12, B-Y
Whittenburg 3	M & C S-12, B-Y
Summit Oil Co.	
Whittenburg 1	M & C S-13, B-Y
Whittenburg 2	M & C S-13, B-Y
Texhoma Oil & Refining Co.	
Whittenburg 1	H & T C S-62, B-46
Travelers Oil Co.	
Kingsland 1	M & C S-6, B-Y
Kingsland 2	M & C S-6, B-Y
Triangle Oil Co.	
Smith 3	M & C S-5, B-Y
Smith 2	M & C S-5, B-Y
Ward & Snell (Twin Six)	
Kingsland 1	M & C S-6, B-Y
Ward & Snell (Cockrell)	
Cockrell 1	M & C S-3, B-Y
Westex Oil Co.	
Whittenburg 1	M & C S-13, B-Y
Whittenburg 2	M & C S-13, B-Y
Whittenburg 4	M & C S-13, B-Y
Whittenburg 3	M & C S-13, B-Y
Whittenburg 5	M & C S-13, B-Y
Whittenburg 6	M & C S-13, B-Y
Whittenburg 7	M & C S-13, B-Y
Whittenburg 8	M & C S-13, B-Y
White Eagle Oil & Refining Co.	
Johnson 1	H & T C S-64, B-46
Johnson 2	H & T C S-64, B-46
Johnson 7	H & T C S-64, B-46
Johnson 8	H & T C S-64, B-46
Hagy-Johnson 1	H & T C S-64, B-46
Hagy-Johnson 8	H & T C S-64, B-46
H. E. Smith 1	M & C S-11, B-Y
H. E. Smith 2	M & C S-11, B-Y
H. E. Smith 3	M & C S-11, B-Y
H. E. Smith 4	M & C S-11, B-Y
Whittenburg 1	M & C S-12, B-Y
Whittenburg 2	M & C S-12, B-Y
Grace Johnson 1	D & S E S-4, B-B4
E. V. Hedgecoke 1	S F S-39, B-V
E. V. Hedgecoke 2	S F S-39, B-V
E. V. Hedgecoke 3	S F S-39, B-V
E. V. Hedgecoke 4	S F S-39, B-V
Whittington	
Sanford 1	H & T C S-82, B-46

Territory of Texas

um News

Elevation	Date Comp.	Total Depth	Pay Record	Size of Shot	Initial Prod. Before Shot	Initial Prod. After Shot	Daily Prod. 10-8-26
3079	5-13-26	2971			4904		
	9- 4-26	2966			1250		553
	9-18-26		2916-2923		100		255
	7- 1-26		2792-2872	200 qts.		150	
	(Records Of Three Wells Missing)						337
	9-16-26				360		
3031	7-27-26	2980	2912-2974	100 qts.	162	840	
	10- 7-26	2996			4800		
	8-26-26		2983-3038	120 qts.		100	
	8-26-26		2973-3065	140 qts.		125	
	8-26-26		3000-3058		50		708
	(Record Of One Well Missing)						
3131		3122			45		
	8-19-26		2975-3038		60		201
	10- 7-26	3047	Shut Down to Shoot				
	9-16-26	3041	2993-3041		35		37
	8-19-26		2891-2956	10 qts.		600	
	9- 2-26	2808	2754-2803	70 qts.		150	
	9-23-26		2875-2955		240		
3032	8- 3-26	2990	2920-2990		2400		1622
	8-12-26		2958-2972		204		138
	10- 2-26	2954			131		62
	9- 2-26	2904	2875-		80		
	10- 7-26	2788	2753-2783	60 qts.	Cleaning Out		70
	(Records Of Two Wells Missing)						112
							112
	4-22-26	2973		200 qts.	60	940	
	6- 3-26	2932			1500		
	6- 2-26	2986		180 qts.	30	2740	
2934	6-29-26	2885	2877-2885		745		1240
2896	6-25-26	2874	2816-2874	150 qts.	100	1627	
2911	7-10-26	2873	2835-2865	160 qts.	50	138	
	9-11-26	2850	2810-2840	120 qts.		30	
	7-23-26		2875-2909	90 qts.		30	820
	(Record Of One Well Missing)						
	10- 7-26	2825			300		420
	10- 2-26	2750	2650-		200		240
2827	6-22-26	2896	2760-2780		1500		
	7- 1-26	2785	2745-2755	320 qts.		200	
	10- 2-26	2805		280 qts.		1100	
	10- 7-26		2667-2712	150 qts.		150	840
	5-30-26	2977		40 qts.	120	500	
	8-14-26	3000			425		
	8-28-26	2981			300		480
	6- 1-26	3010		205 qts.		700	50
	8-21-26	2966			1650		
	(Record Of One Well Missing)						
	9- 2-26		2926-2950		2000		
	8-21-26	2937			500		3150
2977	4-29-26	2955		240 qts.		400	
2969	5-28-26	2985		90 qts.	65	50	
2931	4-22-26	2911			100		
2916	7-25-26	2900	2830-2880	80 qts.	76	190	174
3041	6-10-26	2970	2952-2965		240		
	9- 4-26	2964		40 qts.		40	
		2967	2915-2957		713		
	10- 2-26	2806			208		208
2980	4-17-26	2850		567 qts.	250	2400	
	11-15-25	2952			630		
	8-28-26	2865		Shot	400	1100	1035
2980	5-30-26	2935		70 qts.	130	720	
	7-23-26		2785-2850	300 qts.		1400	275
2980	5-29-26	2942		200 qts.		70	
	9-16-26	2975			100		214
2836	5-18-26	2914		390 qts.	20 M gas	1700	
	7-15-26		2686-2768		200		
	(Record Of One Well Missing)						
	9-23-26		2686-2752	290 qts.		800	920
	9- 4-26	2987		80 qts.		1600	
	8-26-26		2927-2977		100		1525
	10- 7-26		2700-2763	90 qts.		5	5
1	12- 2-25	2900		40 qts.		15	
1	7-21-26		2770-2850	200 qts.		65	Off
	3-17-26	3000			600		
3042	7-15-26	2976	2960-2976		500		
	7-25-26	2965	2934-2965	60 qts.	100	200	700
3069	3-11-26	2945			480		
3058	6-25-26	3026	2925-2989	200 qts.	200	830	370
	9-23-26		2731-2776	130 qts.	20		10
2975	4-21-26	2963		420 qts.	115	2450	
	(Record Of One Well Missing)						625
2806	7-23-26		2624-2645			50	
	9- 9-26	2771	2735-2771	60 qts.		4000	3050
	3-25-26	3075		30 qts.	215	700	50
	7- 1-26		2954-3090	520 qts.		2700	60
2996	3-23-26	2951		90 qts.	50	1650	
2986	6- 1-26	2975		300 qts.	325	350	
	8-12-26	2990	2921-2963		200		
	(Record Of One Well Missing)						
	7-30-26		2923-2967		500		
	10- 7-26	2925			250		
	8-21-26	2962			800		
	8-14-26	2990			800		3440
	5-26-26	2820		60 qts.		1321	
2778	8- 9-26	2717	2672-2717		450		
	9-11-26	2773	2725-2763	120 qts.		50	
					50		528
	9- 4-26	2734		100 qts.	25	60	
	8-12-26		2710-2745		25		46
	5-27-26	2941		300 qts.	360	5500	
		2964			50		
	5-26-26	2780		360 qts.	250	2640	
2847	7-10-26	2777	2722-2733	100 qts.	55	357	
	8-21-26	2923			590		
	7-15-26	2780	2740-2780	180 qts.		127	
	8-14-26	2911			125		
	9-18-26	2892			400		
	10- 7-26	2800	Not Completed				
	9-23-26	2880	2845-2873		420		
	9-23-26		2705-2798		180		1350
	2-27-24	3150			10		Off

Company—Well	Lo
Amarillo Oil Co.	
Biuins 1	T
American Refining Co.	
S. B. Burnett 1	I
S. B. Burnett 2	I
S. B. Burnett 3	I
S. B. Burnett 5	I
S. B. Burnett 7	I
S. B. Burnett 9	I
S. B. Burnett E-1	I
S. B. Burnett C-1	I
Gates Oil Co.	
S. B. Burnett 1	I
Gulf Production Co.	
S. B. Burnett 1	I
S. B. Burnett 2	I
S. B. Burnett 3	I
S. B. Burnett 4	I
S. B. Burnett 5	I
S. B. Burnett 6	I
S. B. Burnett 7	I
S. B. Burnett 8	I
S. B. Burnett 9	I
S. B. Burnett 14	I
S. B. Burnett 15	I
S. B. Burnett 13	I
S. B. Burnett 16	I
S. B. Burnett	I
Marland Oil Co. of Texas	
S. B. Burnett 1	I
S. B. Burnett 2	I
S. B. Burnett 3	I
S. B. Burnett 4	I
S. B. Burnett 5	I
S. B. Burnett 6	I
S. B. Burnett 7	I
S. B. Burnett A-1	I
S. B. Burnett A-3	I
S. B. Burnett A-4	I
S. B. Burnett C	I
Roxana Petroleum Corp.	
Bryan A-1	I
W. W. Silk et al	
S. B. Burnett 1	I
S. B. Burnett 2	I
S. B. Burnett 3	I
Skelly Oil Co.	
S. B. Burnett 1	I
S. B. Burnett 2	I
Sunny Jim Oil Co.	
S. B. Burnett	I
S. B. Burnett	I
The Texas Co.	
S. B. Burnett 1	I
S. B. Burnett 2	I
S. B. Burnett 4	I
S. B. Burnett 5	I
S. B. Burnett 6	I
S. B. Burnett 3	I
S. B. Burnett 2	I
S. B. Burnett 8	I
M. C. Burnett 1	I
M. C. Burnett 2	I
M. C. Burnett 3	I
Gulf (Continued)	
Amarillo Oil Co.	
Warwick 1	T
Gibson Oil Co.	
Phillips 1	H
Phillips 3	H
Continental Oil Co. (Texhom	
Jackson 1	H
Company 1	H
Midwest Exploration Co.	
Williams-Laycock 2	H
Williams-Laycock	H
Williams-Laycock	H
Mid-Kansas Oil & Gas Co.	
Company 1	H
Three N. O. Co. (Upham Gas)	
Williams-Laycock	H
C. H. Clark et al	
Combs & Worley 1	I &
Empire Gas & Fuel Co.	
Heitholt 1	I &
Gulf Production Co.	
Worley 1	I &
Worley 4	I &
Magnolia Petroleum Co.	
Merten 1	I &
Merten 6	I &
Merten 9	I &
McMan Oil & Gas Co.	
Worley-Reynolds 1	I &
Prairie Oil & Gas Co.	
Merton 1	I &
Worley-Reynolds 1	I &
The Texas Co.	
Brown 1	I &
H. F. Wilcox Oil & Gas Co.	
Combs & Worley 1	I &
Wilcox-Pampa Oil Co.	
Worley-Reynolds 4	I &
Worley-Reynolds 6	I &
Worley-Reynolds 12	I &
Worley-Reynolds	I &
Worley-Reynolds	I &
Worley-Reynolds	I &
Worley-Reynolds	I &

Carson County

Location	Elevation	Date Comp.	Total Depth	Pay Record	Size of Shot	Initial Prod. Before Shot	Initial Prod. After Shot	Daily Prod. 10-8-26
.....T T R R S-15, B-Y 2		4-29-26	3100			65		Off
.....I & G N S-115, B-5		10-27-25	2928			480		
.....I & G N S-115, B-5		2- 7-26	2978			2100		265
.....I & G N S-113, B-5		3-18-26	2929			225		20
.....I & G N S-115, B-5		2-17-26	3038			210		125
.....I & G N S-115, B-5		8-28-26	3147			100		20
.....I & G N S-115, B-5		9-11-26	3078			100		60
.....I & G N S-129, B-5		9-11-26	3148			35		25
.....I & G N S-112, B-5		8-18-25	3410					Dry
.....I & G N S-107, B-5	3091	2- 7-25	3058			165		12
.....I & G N B-5	3091	12-12-24	3502			90M Gas		
.....I & G N B-5	3126	5- 2-21	3052			190		
.....I & G N B-5	3193	3-20-24	3142			90		
.....I & G N B-5	3030	11-14-24	2967			18		
.....I & G N B-5	3146	5- 7-25	3079			15		
.....I & G N B-5	3108	4-27-25	3081			210		
.....I & G N B-5	3048	10-20-25	2992			240		
.....I & G N B-5	3020	6-22-25	2932			533		
.....I & G N B-5	3048	9- 7-25	2995			135		
.....I & G N B-5		8- 7-26	3053			311		
.....I & G N B-5		8-21-26	3094			200		
.....I & G N B-5		9-18-26	3112			70		
.....I & G N B-5		9-16-26	3112			40		
.....I & G N B-5								396
xas								
.....I & G N S-107, B-5		4- 4-25	3060			?		
.....I & G N S-107, B-5	3105	8-16-25	2972			175		
.....I & G N S-107, B-5	3144	9-15-25	3078			1100		
.....I & G N S-107, B-5	3127	11- 5-25	3057			124		
.....I & G N S-107, B-5								
.....I & G N S-107, B-5		8- 7-26	3052			42		
.....I & G N S-107, B-5		(Record Of Two Wells Missing)						654
.....I & G N S-116, B-5	3198	4- 6-25	3071			200		
.....I & G N S-116, B-5		8- 7-26	3147			2508		
.....I & G N S-116, B-5	*	8-14-26	3126			200		1526
.....I & G N S-105, B-5								31
rp.								
.....I & G N S-92, B-4		9-18-26	3176			800		434
.....I & G N S-93, B-5	3164	9- 7-22	3076			215		
.....I & G N S-93, B-5	3141	8-19-23	3158			8		80
.....I & G N S-115, B-5		12-28-24	3108			30		40
.....I & G N S-93, B-5	3185	9-23-24	3097			600		94
.....I & G N S-93, B-5	3107	11- 7-24	2968			109M Gas		
.....I & G N S-114, B-5		(Record Of Two Wells Missing)						
.....I & G N S-114, B-5								45
.....I & G N S-114, B-5	3100	11-12-22	3044			998		
.....I & G N S-114, B-5	3043	4- 2-25				550		
.....I & G N S-114, B-5	3052	10-27-24	3008			18		
.....I & G N S-114, B-5	2984	8-25-25	2951			326		
.....I & G N S-114, B-5		11- 5-25	3444			400		
.....I & G N S-113, B-5	3115	6-24-24	3040			298		
.....I & G N S-92, B-5	3174	10-14-25	3157			175		
.....I & G N S-92, B-5		9-18-26	3175			110		171
.....I & G N S-113, B-5	3107	11-27-24	2968			109M Gas		
.....I & G N S-113, B-5	3043	5-12-25	2982			382		
.....I & G N S-113, B-5		6-18-24	2911			50		114

Potter County

.....T T R R S-16, B-12								35

Gray—Wheeler Counties

.....H & G N S-41, B-24		12-23-25	2295		125 qts.		50	
.....H & G N S-41, B-24	2860	6-25-26	2269	2224-2269		550	-	150
Texhoma)								
.....H & G N S-11, B-27		8- 8-26	2247			60		75
.....H & G N S-12, B-27		9-18-26	2290			500		200
Co.								
.....H & G N S-9, B-27		12-21-25	2230		180 qts.	100	220	
.....H & G N S-9, B-27		(Record Of Two Wells Missing)						
.....H & G N S-9, B-27								13
s Co.								
.....H & G N S-12, B-27		9-18-26	2260			60		30
am Gas)								
.....H & G N S-9, B-27		10-24-25	2186		40 qts.		20	Off
.....I & G N S-37, B-3		(Record Of One Well Missing)						8
o.								
.....I & G N S-152, B-3		(Record Of One Well Missing)						11
.....I & G N S-83, B-3		9-18-26	3044			150-		
.....I & G N S-83, B-3		10- 2-26	3015			40-		1560
Co.								
.....I & G N S-82, B-3		10- 2-26	3065			30		
.....I & G N S-82, B-3		10- 2-26	3070		100 qts.		20	
.....I & G N S-82, B-3		(Record Of One Well Missing)						78
.....I & G N S-83, B-3		10- 2-26	2965			245		395
.....I & G N S-82, B-3		(Records On Two Wells Missing)						162
.....I & G N S-83, B-3								921
.....I & G N S-137, B-3		(Record Of One Well Missing)						25
s Co.								
.....I & G N S-59, B-3		(Record Of One Well Missing)						52
.....I & G N S-62, B-3		8-21-26	2922				300	
.....I & G N S-62, B-3		9-25-26	2965				650	
.....I & G N S-62, B-3		10- 2-26	3015				40	
.....I & G N S-62, B-3								
.....I & G N S-62, B-3		(Records Of Four Wells Missing)						
.....I & G N S-62, B-3								2752

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Well Decline Data are Guide to Panhandle

IN the Texas Panhandle, the present indicated productive scope of which must be seen to be appreciated, a development program of large proportions has been under way this year. Production has climbed steadily, being now 30 times as great as it was at the first of the year.

That the output will resume its upward trend with the coming of spring seems obvious. The limitations lie in lack of marketing facilities and not in territory to be drilled. Production seems certain to be checked during the winter months, for there are problems not yet solved in the maintaining of steady well operation. Then, too, the transportation of the oil is certain not to be improved during the winter.

With all this area indicated to be productive the broad question to be answered is how the wells perform. The decline rate of an oil well in a new field is vital information. It indicates the future performance of the field. Such data are generally the basic factors affecting a company's development policy.

Until now information on the performance of the Panhandle has been general. It has consisted of a census of the wells and a total of the daily production. Development has been under way long enough that more intimate knowledge of the territory is desired.

National Petroleum News, during the development of the Ranger field in north Texas began a type of analysis of new fields that had not theretofore been made. Paul Wagner, now manager of its Houston office, began early in the history of Ranger to compile comparative production figures concerning individual wells and leases. That information was used by many companies in determining their policy in that territory. It was recognized as a valuable method of handling production news, which has been exclusive to this publication.

Mr. Wagner has completed the first of his detailed studies of the Panhandle territory, including some 500 wells and carrying it out on the basis of his early Ranger field work. Similar studies were made of other Texas fields.

A special supplement in this issue presents the statistical history of the Panhandle, so arranged as to permit of intelligent conclusions on the performance of the various parts of the district.—Editor.

Panhandle Per Well Average Declines At Early Stage of Development

By Paul Wagner
N. P. N. Staff Writer

HOUSTON, Oct. 25

WHILE the total daily production of the Texas Panhandle district has steadily increased, the per well per day average output has fallen—a tendency that has been particularly marked in the last two and a half months. This is a condition that is contrary to the experience of many major fields. The daily total production is directly dependent upon the new drilling.

Coincident with the Panhandle region's increase to 154,651 barrels total daily average production in the week ended October 15, last, the per well per day average had reached only to 281.7 barrels. The last mentioned average compared with a recent low per well per day yield of 258.3 barrels and a maximum of 344.5 barrels attained in the week ended June 12, last.

The Panhandle territory as a whole shows greater uniformity in the peaks and valleys of the production curve than does the more rapidly drilled Hutchinson county area. Per well per day averages of Hutchinson county wells, however, range generally higher than similar yield figures for the entire territory.

Hutchinson County Production

HUTCHINSON county on Oct. 15, last, accounted for 143,069 barrels of the Panhandle total, showing a per well per day average of 312.3 barrels. The last mentioned average compared with a recent low of 287.9 barrels and a maximum of 426.5 barrels in the week ended June 12, last.

Although following a general similar trend in per well per day averages, the Texas Panhandle as a whole and the Hutchinson county area as segregated from the rest of the Amarillo territory show somewhat different well performance records because of Hutchinson county's constituting the richest part of the region so far developed.

An accompanying tabulation shows that the number of producing wells in the Texas Panhandle increased from 61 making 5279 barrels combined production Jan. 1, 1926, to 100 wells making 15,897 barrels May 1, and 549 wells making 154,651 barrels Oct. 15.

In the same time Hutchinson county wells increased from 21 making 2802 barrels combined production Jan. 1 to 104 wells making 36,289 barrels June 5, and 458 wells making 143,069 barrels, Oct. 15, last.

THIS issue includes a special supplement giving completions data and well performance of more than 500 wells in the Panhandle field of Texas, compiled by Mr. Wagner whose brief summary of the information contained in the supplement appears on this page.

Well Average Peak in June

EXCEPT for minor variations reflecting completions of individual large wells, or their failure to maintain flush productions, Hutchinson county continued its gradual, and sometimes rapid, increases in per well per day averages until the beginning of June. Thereafter per well per day yields showed generally downward trends except for minor interruptions and more especially an upward spurt in the week ended July 24, last, when an average of 406.7 barrels was reached.

The Panhandle producing territory as a whole held at or above 321.5 barrels per well per day for the three weeks ended Aug. 9, last, as compared with its maximum of 344.5 barrels in the week ended June 12 and its nearest subsequent approach to the high level which was attained in the week of July 24, when the average was 332.6 barrels.

Figures shown in the accompanying table include in the first three columns the total wells producing in the entire Panhandle region, their total daily average production by weeks and daily per well averages by weekly periods. In the next three columns are shown similar figures applying to Hutchinson county as distinguished from the territory as a whole.

The records presented herewith may

be studied in conjunction with another tabulation, presented in the special supplement to the current issue of National Petroleum News which together provide the most complete compilation of Texas Panhandle field data to be published anywhere. As explained in an editor's note accompanying the well completion and performance table in the supplement the data there presented represent the assembling together of detailed information obtained from various field and company sources.

Venezuelan Well Opened

NEW YORK, Oct. 23.—Unity No. 1, the well that discovered a new field at Punta Benitez, east shore of Lake Maracaibo, Venezuela, was opened for production on Oct. 17 by the Lago Petroleum Co. and flowed 8000 barrels through two 1-inch chokes. Pressure was 300 pounds. This well was drilled by the Venezuelan Gulf Oil Co. for the Maxudian Oil Co. and the Lago is running the oil. The Lago will drill four more wells for the Maxudian, and one on an adjacent tract of its own. The Gulf will drill one on nearby acreage; so will the Venezuelan Oil Concessions, Ltd. The Unity discovery well is about three miles south of the outpost of production in the La Rosa field.

Growth of Texas Panhandle Production Since January 1, 1926

	All Panhandle			Hutchinson County		
Week Ended	Wells Producing	Daily Avg., In Bbls.	Daily Per Well Avg.	Wells Producing	Daily Avg. In Bbls.	Daily Per Well Avg.
January 1	61	5279	86.5	23	2802	121.8
January 8	61	4897	80.3	23	2802	121.8
January 15	61	5448	89.3	23	2938	127.7
January 22	62	5681	91.6	24	3209	133.7
January 29	65	5376	82.7	27	2942	108.9
February 5	66	5445	82.5	27	3221	119.2
February 12	68	5082	74.8	27	2900	107 4
February 19	74	6147	83.0	32	3791	118.4
February 26	74	6406	86.6	32	4121	128.7
March 5	74	6404	86.6	33	4231	128.2
March 12	75	7040	94.0	34	4755	139.8
March 19	78	7796	99.9	37	5102	137.8
March 26	80	9048	113.1	39	6519	167.1
April 2	83	9427	113.6	40	7050	176.2
April 9	88	9720	110.5	45	7056	156.8
April 16	95	10.136	106.7	51	6937	136.0
April 23	99	16.095	162.6	51	13.091	256.6
April 30	100	15.897	158.9	55	12.961	234.6
May 7	103	18.303	177.7	59	15.314	259.5
May 15	103	24.722	240.0	69	21.248	307.9
May 22	126	31.110	246.9	85	28.151	331.3
May 29	139	38.793	279.0	94	36.285	386.0
June 5	151	39.406	261.0	104	36.289	348.9
June 12	149	50.337	344.5	108	46.071	426.5
June 19	172	52.723	306.5	124	46.784	377.2
June 26	184	48.051	261.1	132	42.745	323.8
July 3	186	56.418	303.3	136	50.269	369.6
July 10	204	55.331	271.2	149	49.538	332.4
July 17	217	63.303	291.7	161	58.337	362.3
July 24	232	77.157	332.6	176	71.589	406.7
August 2	255	82.553	323.7	196	75.438	384.8
August 9	279	89.714	321.5	216	81.061	375.3
August 18	328	97.187	296.3	245	87.427	357 0
August 20	366	107.005	292.3	292	98.915	338.8
August 27	389	118.034	303.4	321	110.019	342.0
September 3	399	116.323	291.5	332	108.897	328.0
September 10	415	118.731	286.1	348	110.447	317 4
September 17	440	121.711	276.6	365	112 589	308.4
September 24	474	122.443	258.3	394	113.545	288.2
October 1	487	125.935	258.6	403	116.057	287.9
October 8	508	144.213	283.8	424	133.859	315.7
October 15	549	154.651	281.7	458	143.069	312.3

Panhandle Can Make 200,000 Barrels Daily Before Cold Weather

By A. F. Hinton
N. P. N. Staff Writer

TULSA, Oct. 23.

THE Texas Panhandle field will in all probability, make as high as 200,000 barrels daily before cold weather sets in. In fact, it could have been producing that volume of crude at any time during the last two weeks had it been possible to force the field's production to it highest output. It was not possible because of the fact that pipe line and storage facilities have been severely taxed to take care of production. Many companies have had to pinch in their wells and stop drilling wells on top of the sand. It is estimated that about 50,000 barrels of production could be added to the field's daily output within a few days if the necessity for this shutting down were removed.

In spite of marketing difficulties and the threat of still lower prices for Panhandle crude, last week's report showed 40 wells added to the list of producers in the district, with increase in production of around 10,000 barrels. The field was then making 154,000 barrels a day from 548 wells. It is probable that this week's report will show a daily average of about 175,000 barrels, and that by Nov. 15, another 25,000 barrels will have been added to that.

For September, the Panhandle's daily average production was 124,885 barrels, of which 72,722 barrels represented the daily deliveries, or oil shipped from the field, the remainder going into storage at the rate of 52,163 barrels daily. The district produced 3,746,550 barrels that month. Of this volume, the pipe line companies received 3,549,750 barrels. The remainder, amounting to 196,830 barrels, probably represented the volume stored by individual producers who were unable to get pipe line connections or unwilling to sell at prevailing low prices.

At the end of September, stocks of crude in tanks in the Panhandle district amounted to 4,856,541 barrels. Total storage capacity was 6,840,000 barrels, leaving available room for 1,983,459 barrels of crude. At that time, additional steel tanks were under construction with capacity for 6,405,000, while at least one other tank-building project announced since then will add another 1,760,000 barrels to the field's storage capacity.

Expect Price Cuts

IT is quite likely that Panhandle crude, which is now generally quoted at $1.25 a barrel flat, will be further reduced in price, and general opinion in Amarillo seems to be that it will probably come to rest finally at about 75 cents a barrel. At such a price, or even at $1 a barrel, it looks like an attractive proposition from a big-company standpoint to store this crude, even though it may have to be held for as long as two years before being sold or refined. For the smaller producer, the prospect is much less cheerful, as he is faced with the alternative of either selling his oil at a low price or providing expensive storage.

September's movement of Panhandle crude out of the area by tank cars indicated an average of about 350 cars daily, from 10 loading racks located on the lines of the Santa Fe at Amarillo, Panhandle, Pampa, and Kingsmill. The Santa Fe is operating trains over its 30-mile line which taps the heart of the field. This line extends from Panhandle to Isom, a new townsite which adjoins Borger on the south. With the completion of this line, Santa Fe officials stated they would be able to handle up to 200,000 barrels of crude daily by tank car shipments. This would mean about 1,000 cars daily, and it appears doubtful that number of cars could be successfully handled over a single track line. As an example of how the new line will be used for oil shipments. It is interesting to note that oil companies are building, or have made arrangements with the railroad to build, 18 load-

Analysis by companies of drilling operations in Texas Panhandle counties where most activity is in progress.

Company	Locations	Rigs	Drilling	Shut Down	Total
Carson County					
American Refg.			1	1	2
Empire G & F.		1	1		2
Gulf Prod.			4	1	5
Humble O & R.			1	1	2
Magnolia Pet.	1		1		2
Marland Oil.	1	4	5	1	11
Prairie O & G.			1		1
Roxana Pet.		3	1		4
Texas Co.	2	2	2		6
Others.		4	5	3	12
Total.	4	14	22	7	47
Gray County					
Empire G & F.			3		3
Gulf Prod.			5		5
Humble O & R.			12		12
McMan O & G.			8		8
Magnolia Pet.	1	1	14		16
Marland Oil.			1		1
Phillips Pet.	1		3		4
Prairie-Shamrock.		1			1
Pure Oil.			4		4
Shamrock Oil.			4	5	9
Roxana Pet.			1		1
Skelly Oil.		1			1
Sun Oil.			4		4
Texas Co.	2		5		7
Wilcox O & G.			8		8
Others.	2	6	10	4	22
Total.	6	9	82	9	106
Hartley County					
Amerada Pet.		1			1
Deep Rock Oil.			1		1
Humble O & R.			1		1
Others.	2		4	2	8
Total.	2	1	6	2	11
Hutchinson County					
Amerada Pet.	1	2	1		4
American Refg.		1	1	1	3
Barnsdall Oil.		1	1	1	3
Delmar Oil.			1	2	3
Derby Oil.			3		3
Devonian Oil.			3	1	4
Dixon Creek Oil.		1	3	6	10
Empire G & F.		2	6	5	13
Gulf Prod.		7	20	9	36
Hughes Dev.		1	5		6
McMan O & G.		1	2		3
Marland Oil.	1		8	3	12
Mid-West Exp.	1		12	1	14
Phillips Pet.	3	22	53	14	92
Prairie O & G.	2	2	18	3	25
Pure Oil.		1	1		2
Roxana Pet.			2		2
Sinclair O & G.			1		1
Skelly Oil.			10		10
Texas Co.			1		1
White Eagle O & R.	1	1	2		4
Others.	19	22	54	40	135
Total.	28	64	208	86	386
Moore County					
Amarillo Oil.			2		2
Douglas Oil.			1		1
Humble O & R.			1		1
Phillips Pet.				1	1
Prairie O & G.			1		1
Others.		1	4	2	7
Total.		1	9	3	13
Wheeler County					
American Refg.	1				1
Magnolia Pet.	1				1
Texas Co.			1		1
Upham Gas.		2	1	1	4
Others.	1	2	8	2	13
Total.	3	4	10	3	20

Drilling Operations by Counties other than those shown by Companies

County	Locations	Rigs	Drilling	Shut Down	Total
Armstrong.			1		1
Childress.			1		1
Cochran.			1		1
Collingsworth.		1	1	2	4
Dallam.			1	1	2
Donley.				1	1
Hall.				1	1
Hansford.				2	2
Hemphill.	1	1	1	3	6
Lipscomb.		1	1	1	3
Ochiltree.			1	3	4
Potter.	1		4	1	6
Randall.			1		1
Roberts.		1	2	4	7
Sherman.		1	2	1	4
Total.	2	5	17	20	44
Grand Total, Panhandle District	45	98	354	130	627

ing racks along the Panhandle-Isom branch line. These racks to have a capacity of about 460 cars. With these new loading racks operating to capacity and added to those already in use, it is indicated that 810 cars of Panhandle crude, approximately 160,000 barrels, could be loaded every day.

Large Tank Building Program

BUILDING of steel tankage is progressing at a fast rate in all the five producing counties of the Panhandle, the program already under way assuring that the area's present tank capacity will have been more than doubled when construction now under way has been completed. In Gray county, where large tank farms have been built by the Magnolia Petroleum Co. and the Prairie Oil & Gas Co. at Kingsmill, the Magnolia has 31 55,000-barrel tanks completed, and is building 18, thus adding 990,000 barrels to its present capacity of 1,705,000 barrels. Prairie has completed four and is building 22 tanks, all of 55,000 barrels' capacity. In all, this county has present capacity of 2,120,000 barrels, with 2,200,000 barrels building.

In Carson county, with present steel tank capacity of 1,670,000 barrels, 19 80,000-barrel tanks are under construction, which will add 1,520,000 barrels to its storage facilities. Gulf Production Co. is building 16 of these tanks and Humble Oil & Refining Co. is building three. The Gulf already has eight 80's and one 55 in its Panandle tank farm, and the Humble has six 55's in addition to the new tanks it is now building.

Present steel tank capacity in Hutchinson county is 3,050,000 barrels, or 59 tanks of 55,000 and 80,000 barrels capacity. When tanks being built have been completed, this will have been increased to 4,445,000 barrels. The largest project of this nature in Hutchinson county at present is that of the Marland Oil Co., which is preparing to build 22 80,000-barrel tanks in section 128, block 5, I. & G. N. R. R. survey. This work has proceeded no further than grading at present, but construction work will be rushed. About 40 other steel tanks are under construction in the county. The largest program next to that of Marland being that of the Bartex Pipe Line Co. (Phillips Petroleum Co.) which is building 10 55,000-barrel tanks in addition to the 18 it already has completed.

Fifteen pipe line companies are handling Panhandle crude. They have total daily capacity of 178,000 barrels. They actually ran 118,325 barrels daily during September. Some of these companies, such as the Dixon Creek Oil Co. with 15,000 barrels of pipe line capacity and the Coble-Whittenburg, with 5,000 barrels capacity, ran no oil, all their production either being run by other companies or placed in storage. Thus there was actually 158,000 barrels of pipe line capacity available when the district's production was 154,000 barrels, as it was last week.

The following table shows Panhandle pipe lines, with their capacities, daily average runs, receipts, deliveries, stock, room, and capacities, during September, 1926:

Panhandle Crude Oil Report for September

Receipts — Deliveries — Stock

Company	Main Line Capacity	Daily Average	Receipts	Deliviries	Stock	Room	Capacity
Atlantic.	12,000	253	7,590	7,590			0
Bartex.	8,000	18,145	544,350	311,542	852,378	137,622	990,000
Dixon Creek.	15,000	0	0		54,994	6	55,000
Gulf.	15,000	11,708	351,240	192,144	843,166	171,834	1,015,000
Coble-Whitby.	5,000				55,000	55,000	55,000
Humble.	30,000	5,088	152,640	44,038	207,538	257,462	465,000
Magnolia.	12,000	12,433	372,990		1,454,946	270,054	1,725,000
Marland.	30,000	30,210	906,300	766,592	513,092	276,908	790,000
Pantex.	8,000	12,136	364,080	364,080			0
Plains.	8,000	12,028	360,840	422,062	204,747	255,253	460,000
Prairie.	15,000	5,348	160,440		356,794	138,206	495,000
Roxana.	7,500	1,967	59,010		116,701	43,299	160,000
Sinclair.	5,000	2,418	72,540	72,540		80,000	80,000
Skelly.	5,000	6,555	196,650		252,185	297,815	550,000
Wrather.	3,000	36	1,080	1,080			0
Total.	178,000	118,325	3,549,750	2,181,668	4,856,541	1,983,459	6,840,000

Straits of Eastern Pipe Line Companies Shown by Government Report

WASHINGTON, Oct. 23

THE hard straits into which some of the eastern pipe line companies have been thrown because of decreased crude production from fields tributary to their lines and decreased shipments of crude through the pipe line system from the southwest to the Atlantic coast, is again borne out in the report of operations for 1925 just issued by the Interstate Commerce Commission.

The report covers operations of 37 systems, as compared with 36 in 1924, including both the pipe line companies with outside holdings of stock and the pipe line companies which are wholly owned subsidiaries of the large integrated oil companies.

Net operating income per mile of line for 1925 was well over $1,000 in several cases of the subsidiary pipe lines which move oil in volume through Oklahoma and Texas to the Gulf coast. The return to the eastern pipe line companies averaged less than $200 per mile of line.

All told, last year was a better operating period than 1924 for the pipe line companies. This was due to the better returns made by the subsidiary pipe line companies of the southwest, however, for which operating expenses and earnings are pretty much a matter of bookkeeping.

Must Report on Operations

THIRTY-SEVEN pipe line systems which report their operations to the commission just like the railroads do,

Summary of Pipe Line Company Reports on 1925 Operations as made to the Interstate Commerce Commission under the Common Carrier Act.

Name of Company And States or Fields Served		Miles of Line Operated	Investment In Pipe Lines	Capital Stock	Pipe Line Operating Revenues	Pipe Line Operating Expenses	Pipe Line Operating Income	Net Income	Dividends Amount
Total for the Country	1925	70,008.83	$511,087,922	$821,485,100	$164,644,740	$ 80,231,636	$ 70,965,545	$ 88,495,026	$ 72,209,356
	1924	68,184.94	496,187,164	462,232,200	146,921,073	74,655,544	63,176,232	72,233,975	41,151,063
Arkana Transit Corp. (Arkansas)	1925	32.21	250,119	50,000	109,765	67,432	34,056	37,857	.....
	1924	32.21	250,185	50,000	89,800	37,734	46,395	40,114	.....
Buckeye Pipe Line Co. (Ohio)	1925	6,534.00	19,086,634	10,000,000	4,361,614	3,098,324	972,597	1,128,091	800,000
	1924	6,496.00	18,494,482	10,000,000	3,613,839	2,520,643	822,905	984,395	800,000
Crescent Pipe Line Co. (Penna.)	1925	274.03	1,072,187	1,500,000	14,642	90,089	Def. 84,272	Def. 54,767	.....
	1924	274.03	1,072,187	1,500,000	25,112	137,691	Def.133,971	Def. 91,667	.....
Crude Oil Transit Co. (Kans. and Okla.)	1925	.....	108,461	1,500	.....	.....	Def. 1,826	Def. 524	.....
	1924	22.43	107,799	1,500	51,793	20,179	31,614	30,653	.....
Cumberland Pipe Line Co. Inc. (Kentucky)	1925	1,230.99	4,659,709	3,000,000	1,127,647	747,834	296,590	365,425	360,000
	1924	1,235.38	4,626,729	3,000,000	1,271,022	783,587	300,892	426,074	360,000
Empire Pipe Line Co. (Kans., Okla. and Texas)	1925	919.00	9,684,152	500,000	2,310,830	1,116,799	980,444	1,014,173	825,000
	1924	919.00	9,949,178	500,000	2,442,397	1,228,859	1,110,545	1,212,253	2,300,000
Eureka Pipe Line Co. (W. Va.)	1925	4,649.57	10,822,533	5,000,000	2,101,980	2,029,912	Def. 49,528	42,875	200,000
	1924	4,646.05	10,808,291	5,000,000	1,991,595	1,835,402	Def. 98,605	Def. 3,373	350,000
Gulf Pipe Line Co. (Texas)	1925	2,453.19	29,247,777	3,500,000	8,367,203	5,038,209	3,079,591	3,035,525	.....
	1924	2,252.83	27,297,330	3,500,000	7,314,071	4,553,321	2,535,770	3,168,589	.....
Gulf Pipe Line Co. of Oklahoma (Kansas and Okla.)	1925	1,342.29	9,833,250	1,000,000	4,232,266	1,698,023	2,391,519	2,698,875	5,500,000
	1924	1,300.28	9,460,641	1,000,000	4,408,991	1,821,106	2,453,331	2,804,723	1,000,000
Humble Pipe Line Co. (Texas)	1925	2,798.17	33,341,480	24,000,000	15,772,826	6,565,362	9,066,064	9,048,926	8,000,000
	1924	1,954.01	23,604,591	12,000,000	11,913,604	5,013,571	6,784,266	6,769,511	8,000,000
Illinois Pipe Line Co. (Ill., Ind., Ohio, Wyo. and Mont.)	1925	3,741.11	31,156,687	20,000,000	7,298,264	3,473,732	3,044,810	3,992,493	2,400,000
	1924	3,663.11	30,623,666	20,000,000	6,604,521	3,643,771	2,221,037	2,757,589	2,400,000
Imperial Pipe Line Co., Ltd. (Ohio and Mich.)	1925	179.05	1,224,443	680,000	376,013	301,617	42,797	54,235	81,600
	1924	179.05	1,229,429	680,000	358,846	284,651	45,917	65,281	136,000
Indian Pipe Line Corp. (Ill., Ind. and Ky.)	1925	457.00	1,613,569	50,000	650,414	188,834	429,249	377,763	350,000
	1924	360.10	1,508,196	50,000	490,264	209,175	256,627	213,492	.....
Indiana Pipe Line Co. (Indiana)	1925	925.00	5,082,660	5,000,000	1,586,120	785,770	554,498	755,038	400,000
	1924	988.00	5,118,644	5,000,000	1,269,726	642,231	410,919	618,275	600,000
Magnolia Petroleum Co. (Okla. and Texas)	1925	3,446.31	37,231,211	184,696,100	9,719,473	6,356,403	3,057,162	17,068,954	8,645,598
	1924	3,326.45	37,140,533	180,247,100	9,285,836	6,256,791	2,762,170	8,456,978	7,200,539
Marland Pipe Line Co. (Kans. and Okla.)	1925	525.81	5,354,494	500,000	2,912,527	1,206,953	1,676,260	1,676,261	2,000,000
	1924	476.55	4,357,003	*500,000	2,669,205	963,366	1,684,697	1,496,794	.....
Maryland Pipe Line Co. (Md. and Penna.)	1925	33.35	162,050	150,600	1,884	17,372	Def. 21,083	Def. 13,203	.....
	1924	33.35	162,337	150,600	18,950	26,757	Def. 14,060	1,639	6,024
National Transit Co. (Penna.)	1925	3,600.17	8,141,209	6,362,500	1,615,266	1,560,063	28,311	695,070	636,250
	1924	3,662.17	8,169,914	6,362,500	1,689,722	1,485,636	153,919	837,601	763,500
New York Transit Co. (New York and New Jersey)	1925	1,526.00	6,946,778	5,000,000	1,004,603	691,427	138,430	241,240	150,000
	1924	1,525.00	6,940,764	5,000,000	1,088,462	760,152	146,201	244,728	100,000
Northern Pipe Line Co. (Penna.)	1925	606.47	2,997,456	4,000,000	539,860	385,450	103,014	272,703	240,000
	1924	606.03	2,984,397	4,000,000	467,714	354,727	68,675	227,823	240,000
Oklahoma Pipe Line Co. (Kans. and Okla.)	1925	1,728.03	19,396,139	15,000,000	8,534,725	2,777,008	4,293,340	4,311,516	9,500,000
	1924	1,588.67	16,640,887	10,000,000	6,928,840	2,015,307	4,522,537	4,501,675	.....
Ozark Pipe Line Corp. (Ill., Kans., Mo. and Okla.)	1925	1,035.23	14,158,484	8,916,100	6,220,574	1,788,495	4,147,778	4,328,075	2,900,000
	1924	939.42	12,481,159	—8,916,100	5,442,466	1,484,296	3,708,170	3,828,636	2,500,000
Pierce Pipe Line Co. (Okla. and Texas)	1925	210.71	2,368,815	1,000,000	168,953	106,494	37,259	38,037	.....
	1924	230.00	2,808,992	1,000,000	60,290	88,407	Def. 28,117	Def. 51,962	.....
Prairie Pipe Line Co. (Ill., Iowa, Ind., Kans., Mo., Okla., and Texas)	1925	11,397.48	85,139,731	81,000,000	29,275,585	12,064,486	13,933,478	15,228,608	6,480,000
	1924	11,125.70	82,505,800	81,000,000	25,092,333	11,486,369	10,914,042	11,794,547	6,480,000
Producers & Refiners Pipe Line Co. (Penna.)	1925	.....	928,997	10,000	.....	.....	Def. 1,800	8,492	.....
	1924	.....	895,794	10,000	.....	90,656	Def. 92,509	7,491	.....
Pure Oil Pipe Line Co. (Ohio, Okla., Penna. and W. Va.)	1925	2,536.32	3,415,528	2,130,000	988,932	995,987	Def. 46,671	Def.299,569	.....
	1924	2,512.31	3,076,967	2,130,000	872,800	993,105	Def.150,932	Def 421,783	.....
Pure Oil Pipe Line Co. (Penna.)	1925	.....	947,059	300,000	.....	.....	Def. 2,400	119,420	.....
	1924	*	947,100	300,000	.....	57,875	Def. 59,306	120,694	.....
Shreveport—El Dorado Pipe Line Co., Inc. (Ark. and La.)	1925	169.70	1,869,003	2,500,000	1,218,606	523,920	666,920	181,204	.....
	1924	147.33	1,760,508	2,500,000	1,083,147	451,433	596,585	221,837	.....
Sinclair Pipe Line Co. (Okla., Kans., Texas, Mo., Iowa, Ill., Ind., Neb. and Wyo.)	1925	5,858.40	75,067,476	28,084,400	16,342,593	11,136,845	4,176,501	2,724,042	1,965,908
	1924	5,724.00	73,978,503	28,084,400	14,017,661	10,340,481	3,347,641	2,523,780	.....
South West Pennsylvania Pipe Lines (Penna.)	1925	1,661.14	4,205,417	3,500,000	779,167	609,428	135,377	196,571	140,000
	1924	1,689.08	4,222,912	3,500,000	743,962	678,626	266	73,726	245,000
Southern Pipe Line Co. (Penna.)	1925	1,130.98	5,969,671	10,000,000	431,802	415,815	Def. 85,065	191,266	400,000
	1924	1,130.99	5,971,232	10,000,000	618,834	509,092	Def. 43,431	292,010	800,000
Standard Pipe Line Co. (Ark. and La.)	1925	1,865.44	25,728,143	25,000,000	17,202,035	4,417,944	11,188,314	11,170,439	13,000,000
	1924	1,783.14	25,415,062	25,000,000	17,550,372	4,302,676	11,602,103	11,519,149	.....
Texas Pipe Line Co. (Ark., La. and Texas)	1925	3,489.73	37,581,649	14,000,000	13,315,473	6,248,810	5,309,019	4,819,140	4,760,000
	1924	3,331.68	36,819,240	14,000,000	12,898,296	6,271,714	6,374,518	5,679,060	4,900,000
Texas Pipe Line Co. of Oklahoma (Okla.)	1925	1,256.60	6,957,891	6,000,000	2,052,217	1,146,593	593,408	652,234	600,000
	1924	1,292.72	7,020,946	6,000,000	1,750,060	1,083,706	522,066	732,177	720,000
Tide Water Pipe Co., Ltd. (Ill., Ind., Ohio, Penna., N. J. and N. Y.)	1925	2,100.95	10,997,666	6,250,000	2,810,761	1,732,583	656,907	2,043,269	1,875,000
	1924	2,142.55	11,039,655	6,250,000	2,227,160	1,574,674	546,158	1,212,931	1,250,000
Tuscarora Oil Co., Ltd. (N. J. and Penna.)	1925	595.32	6,706,849	5,000,000	740,760	650,114	Def. 25,928	90,821	.....
	1924	595.32	6,696,111	5,000,000	562,322	647,777	Def. 163,803	Def. 61,465	.....

*Report for period, March 18 to Dec. 31, 1924.
—Represents consideration received for 1,500 shares of common stock without par value.
Def.—Deficit or other reverse item.

Table No. 2

Barrels of oil run and net operating income of pipe line companies which are subsidiaries of integrated companies running mostly oil for those companies

	Barrels	Operating Income
Humble Pipe Line Co.		
1925	78,652,259	$ 9,048,926
1924	68,408,595	6,784,266
1922	55,306,548	.....
Sinclair Pipe Line Co.		
1925	49,474,424	$ 4,176,501
1924	44,516,900	3,347,641
1921	29,931,659	3,833,466
1920	26,869,997	2,298,145
Texas Pipe Line Co., of Texas		
1925	38,897,962	$ 5,309,019
1924	38,984,595	6,374,518
1921	33,132,689	3,504,501
1920	35,585,585	2,520,700
Gulf Pipe Line Co. of Texas		
1925	35,433,755	$ 3,079,591
1924	32,037,163	2,535,770
1921	16,622,811	3,266,820
1920	23,089,916	1,705,699
Magnolia Petroleum Co.		
1925	84,936,500	$ 3,057,162
1924	80,095,590	2,762,190
1921	58,157,164	812,554
1920	58,184,501 Def.	466,391
Tide Water Pipe Co., Ltd.		
1925	7,395,830	$ 656,907
1924	6,375,847	$ 546,158
1921	5,437,473 Def.	1,171,978
1920	7,375,613 Def.	486,467
Empire Pipe Line Co.		
1925	19,504,299	$ 980,444
1924	20,008,996	1,110,545
1921	8,535,781	161,577
1920	7,735,453	382,358
Ozark Pipe Line Corp.		
1925	81,829,483	$ 4,147,778
1924	25,205,515	3,708,170
1921	7,279,392	695,151
1920	9,077,619	624,023

because they are also common carriers under the law, had a net income for 1925 of $88,495,026, compared with $72,233,975 for 36 systems in 1924.

This net income was on 70,008 miles of line in 1925, compared with 68,185 miles in 1924; and on a reported investment in pipe lines for 1925 of $500,087,922, compared with $496,187,164 in 1924.

Operating revenue from pipe line transportation of oil by these 37 companies was $164,644,740, quite an increase over the $146,921,073 reported in 1924. These figures do not include for either year revenue accruing to pipe line companies from other investments.

Pipe line operating expenses in 1925 were $80,231,636 and in 1924 $74,655,544. Pipe line operating income in 1925 was $70,965,545, compared with $63,176,232 in 1924.

These 37 systems reported dividends paid during 1925 totaled $72,209,356, compared with $41,151,063 in 1924.

Some Decrease Dividend Rate

THE lines publicly owned in almost all cases showed no increase in their dividend rate. Some decreased their rates, these being the systems operating in the old eastern producing states and part of the systems controlled by Standard Oil interests, which transfers oil from the Mid-Continent field to the Atlantic coast plants. The New York Transit Co., operating in New York and New Jersey, increased its dividends from $100,000 to $150,000. The National Transit Co. in Pennsylvania, fell from $763,500 to $636,250, and the Southern Pipe Line Co. in Pennsylvania from $800,000 to $400,000.

For all companies reporting, the average net operating income from each mile of line in use in 1925 was a little more than $1000. Inasmuch as pipe line investment is often considered for general purposes as $10,000 a mile, this might be considered a fair rate of return, compared wtih other forms of investments. However, this does not give a true picture for the pipe line companies which are strictly pipe line concerns operating for a profit, at least in the old eastern fields. Eleven such companies, with about 26,000 miles of line, reported net operating income of $4,289,215, which averages about $165 for each mile of line.

The Prairie Pipe Line Co., which in the Mid-Continent field corresponds somewhat to these eastern systems, with 11,397 miles of line, and net operating income from its lines of $13,933,478, averaged better than $1220 a mile of line. This net operating income was much better than in 1924 also, on about the same amount of line. This system ran 105,071,080 barrels of oil through its lines in 1925. Its net income per barrel run was 13 cents.

The Illinois Pipe Line Co., operating in the old Ohio, Illinois, and Indiana territories and also in Rocky Mountain territory, with 3741 miles of line, returned operating income of $3,044,810, a little better than $800 a mile.

Gulf Earned $1200 Per Mile

AS compared with this, the Gulf Pipe Line Co. of Texas, a wholly owned subsidiary of the Gulf Oil Corp., running oil only for the Gulf Oil Corp. interest and having 2453 miles of line, reported net operating income of $3,079,591, an average per mile of more than $1200. The Oklahoma pipe line company of the same interests reported net income of nearly $1800 a mile.

The pipe line system of the Humble Oil & Refining Co. interests in Texas, the Humble Pipe Line Co. with 2798 miles of line, reported net operating income of $9,066,064, average per mile income of around $3200. This company ran a volume of oil amounting to 78,652,259 barrels. To return this rate on its miles of line, its net income averaged only about 10.5 cents per barrel of oil run.

The Magnolia Petroleum Co. in Oklahoma and Texas, with 3446 miles of line, reported net operating income of $3,057,162, and average per mile of under $900. This company ran nearly 85,000,000 barrels of oil through these lines in 1925, its net income being only about 3 cents a barrel.

The Sinclair Pipe Line Co., operating chiefly in Oklahoma and Kansas, with 5858 miles of lines, had operating income in 1925 of $4,176,501, bringing its return to about $713 per mile. The oil transported totaled 49,478,424 barrels, making the income nearly 9 cents per barrel.

Study of the government figures continues to bear out how the transportation of oil by pipe line is swinging more to the movement by the big integrated companies through their own pipe line systems. The pipe lines running oil from Oklahoma and Texas to the Gulf and thence either as crude or refined products by tanker to the northern Atlantic coast points show increases in practically every instance.

Table No. 3

Barrels of oil run and total net operating income for pipe line companies with stock held outside

	Barrels	Operating Income
Prairie Pipe Line Co.		
1925	105,071,080	$13,933,478
1924	91,853,664	10,914,042
1921	124,096,679	16,393,728
1920	111,486,503	9,264,005
Illinois Pipe Line Co.		
1925	38,641,032	$ 3,044,810
1924	33,570,657	2,221,037
1921	15,664,649	3,916,810
1920	14,362,166	4,676,199
National Transit Co.		
1925	15,932,122	$ 28,311
1924	16,166,598	153,919
1921	23,014,925	468,276
1920	25,478,008	146,492
Buckeye Pipe Line Co.		
1925	80,234,239	$ 972,597
1924	26,085,004	822,905
1921	32,883,744	1,065,321
1920	.....	.....
Eureka Pipe Line Co.		
1925	12,937,282 Def.	$ 49,528
1924	12,625,210 Def.	98,605
1921	17,840,216	349,946
1920	22,950,981	496,833
Southwest Pa. Pipe Lines		
1925	6,956,288	$ 185,377
1924	6,857,465	266
1921	10,140,429	87,874
1920	13,648,095	276,247
New York Transit Co.		
1925	6,483,785	$ 138,430
1924	6,888,361	146,201
1921	11,616,903	247,437
1920	12,626,975	154,539
Crescent Pipe Line Co.		
1925	98,983 Def.	$ 84,272
1924	128,638 Def.	133,971
1921	2,781,362	59,625
1920	1,846,636	32,078
Indiana Pipe Line Co.		
1925	25,432,982	$ 554,498
1924	21,431,015	410,919
1921	29,894,192	870,368
1920	33,029,533	717,567
Cumberland Pipe Line Co.		
1925	4,027,080	$ 296,590
1924	4,364,566	300,892
1921	6,175,676	218,251
1920	7,527,693	323,386

T. A. Peck Takes Up Work at N.P.M.A. Offices

CHICAGO, Oct. 22.—Theodore A. Peck, recently appointed consulting engineer of National Petroleum Marketers' Association, has assumed his duties at that organization's offices at 624 S. Michigan Ave., Chicago. He also is chairman of the lubricating oils committee of the Independent Oil men of America. This is the committee that establishes the standards and issues "certificates of merit" for all motor oils branded Red Hat.

Before getting into the petroleum industry, Mr. Peck for 16 years designed and engaged in manufacturing engines and machinery. He entered the oil business as chief engineer of Vacuum Oil Co., in charge of automotive lubrication. In 1919 he became chief engineer of Pierce Oil Co., automotive division, and in 1921 he consolidated all Pierce lubricating engineering branches into one group.

Mr. Peck is a member of the American Society of Mechanical Engineers; the American Society for Testing Materials; the Society of Automotive Engineers, and the American Chemical Society.

Wilson Testifies Original Adams Process Was Not Profitable to Operate

By Paul Truesdell
N. P. N. Staff Writer

NEW YORK, Oct. 25 A CRACKING plant built on the exact specifications and drawings upon which Joseph H. Adams secured his original patent, for which he filed application in 1909, could not be operated on a commercial scale profitably, in the opinion of Robert E. Wilson, director of research, Standard Oil Co. of Indiana, expert witness for the Patent Club in the suit brought against its members by the United States government.

Hearings are taking place in New York before Special Master Charles Martindale. The suit was filed in federal court at Chicago in 1924.

Mr. Wilson was being cross examined by Benjamin T. Rauber, of government counsel, when this statement relative to the Adams patent was made.

"Would you as a refining expert operate the Adams process just as it was described in the patent application?" was the question.

"No, I would make some changes before I would try to operate it commercially, was Mr. Wilson's answer.

The witness hastened to add, however, that the Adams process, as the inventor described it, could be operated and would give the results he claimed, although not in a commercial way. He also insisted that Adams was the real inventor of the seven features that he had recited on his direct examination. These features were outlined in the story of this hearing in last week's National Petroleum News.

The defense is seeking to show that these seven features tie up more or less directly with each of the four processes that are used and the patents on which are owned by the Patent Club. They represent that the overlapping nature of the patents in the cracking field made the formation of the Patent Club a practical necessity.

It is a well known fact that engineers of The Texas Co. spent much time and work on the Adams patents and introduced many ideas of their own before they arrived at a satisfactory cracking process.

In fact, Mr. Wilson testified on cross examination that it was six or seven years after 1912, when operation of the Burton process began, before there was a cracking process that was able to compete with the Burton.

Adams To Take The Stand

IT is understood that Joseph H. Adams himself will take the witness stand for the defense and will tell his own story of his part in the development of the cracking art. R. C. Holmes, president of The Texas Co. and the leader in the work of developing the disclosures in the Adams patents into a commercial cracking process, is expected also to be a witness.

In fact, it appears that, when the defense closes its case, the whole story of the development of cracking in America will have been told as it has never been told before. The testimony of Mr. Wilson, Mr. Adams, Mr. Holmes and others who will probably be called, might really serve as a text book on the subject.

The Patent Club is represented by a corps of lawyers such as is seldom seen in a court room. Russell Wiles, Chauncey L. Martyn, general counsel, and L. L. Stevens, general attorney, represent the Standard Oil Co. of Indiana; John W. Davis, Democratic candidate for president of the United States in 1924, represents the Standard Oil Co. of New Jersey; John B. Marsh represents the Gasoline Products Corp., owner of the Cross patents, and the M. W. Kellogg Co.; C. B. Ames, general ocunsel, R. J. Dearborn and Drury Cooper represent The Texas Co., K. G. Mackenzie, chief chemist of The Texas Co. sits in on the case as an observer. G. H. Dorr represents the Standard Oil Co. of New York. Ex-governor Nathan L. Miller of New York represents Mr. Adams.

There are other interested observers studying the case for the future guidance of their companies or their clients. Among these are Charles L. Parmelee, consulting engineer who has done much work for the Sinclair companies; J. B. McCauley patent lawyer for the Sinclair interests, and much of the time E. W. Isom, refinery technical expert of the Sinclair company and the developer of the Isom cracking process.

Wilson Again Attacks McKee

MR. WILSON finished his direct testimony Oct. 19, when considerable time was spent in further attacking the statements of the government's expert witness, Prof. R. H. McKee of Columbia University. The same day, Richard Fleming, inventor of the Fleming cracking process took the stand, having been called from his home in California.

He told of the arrangement made between himself and the M. W. Kellogg Co. and the organization of the Richard Fleming Co. He told how he assigned two patents covering his process to Kellogg and his associates and of an agreement between the Kellogg company and the Fleming company that the latter was to grant the licenses, selling the process to the refiners, and that the Fleming company was to turn over the construction work to the Kellogg company. Mr. Fleming said that only one installation was made under this arrangement, that at the plant of the Shell Co. of California.

The following morning, Mr. Fleming took the stand for a few minutes, merely to identify a contract between the Richard Fleming Co. and The Texas Co. presumably granting immunity to the Fleming company from suit for infringement of the Adams patents. Mr. Fleming, under questioning of Horace R. Lamb, one of the attorneys for the government, testified he had never seen this contract, although he was a director of the Richard Fleming Co., until a few days before when it was shown to him by Mr. Lamb. John B. Marsh was attorney for the Kellogg company.

Following the testimony of Mr. Fleming, Charles L. Suhr, president of the Pennzoil Co., Oil City, Pa., was called to the stand. Under the questioning of Mr. Lamb he testified to negotiations with the M. W. Kellogg Co. through H. S. Bell, who at that time was in charge of the petroleum department of the Kellogg Co., relative to the installation of Fleming cracking units.

Who Said It?

OCCASIONALLY there is a flash of wit in cross-examination of the Patent Club's expert witness, Robert E. Wilson, Standard Oil Co. of Indiana.

After carefully bringing out that Raymond F. Bacon had been an expert witness for the Standard Oil Co. of Indiana in the Dubbs suit, B. T. Rauber, of counsel for the government, cited a paragraph in "The American Petroleum Industry" by Bacon and Hamor, as a contradiction of a statement made by Mr. Wilson.

"Is the Bacon who wrote this book the same Bacon who testified as an expert witness?" asked the cross examiner. Wilson said that he was. "Then how do you account for this statement in his book?" asked the lawyer triumphantly.

Wilson thought for a second or two.

"You will notice there are two authors of the book, I don't know which of them is responsible for that statement," he replied.

He stated that negotiations with the Kellogg company were concluded in October, 1922, for the construction of four units. He identified a letter on the stationery of the Kellogg company, signed by H. S. Bell in which it was stipulated that the company should enter into a contract also with the Richard Fleming Co. and pay a lump royalty of $20,000 a unit.

Identifies License Contract

IN February, 1923, Mr. Suhr testified, a license contract with the Richard Fleming Co. was signed by the Pennzoil Co. Mr. Suhr identified a copy of this contract and testified to having signed it as president.

Mr. Suhr said that when negotiations were on for the installation of the units, representations were made as to the yields and costs of operation to be expected and also the Kellogg company stated that it was confident that the Fleming patents did not infringe any other cracking patents.

No notice was ever received, so far as Mr. Suhr knew, he testified, that his company was infringing any patents by the operation of the Fleming process.

In May, 1925, however, Mr. Suhr testified he received a letter on the stationery of the Richard Fleming Co. signed by L. H. Harvison who wrote the Fleming company had made a settlement with The Texas Co. and the Standard of Indiana. By this settlement, in return for the payment of 25 per cent of the royalties received by the Fleming company, from its licensees, and payment of a flat sum of $5,000 a unit from each licensee, the Standard of Indiana and The Texas Co. would give them a release against suit for infringement of any of the patents owned by the two companies.

Mr. Harvison, he said, strongly urged the Pennzoil Co. to join the settlement by paying $20,000 to the two big companies.

Mr. Suhr testified that he refused to pay the $20,000 and demanded to be shown wherein the Fleming patents or the Fleming process constituted infringement. He also called Mr. Harvison's attention, he said, to the fact that the Pennzoil Co. had been assured when it contracted for the installation of the process, that it could have every confidence in the safety of the patent situation.

Mr. Suhr testified Mr. Harvison called on him at Oil City and urged him personally to pay over the money demanded as the price of immunity. He stated that Mr. Harvison told him on that occasion that he had never meant that the Fleming patents did not infringe the Patent Club's patents but that he considered the latter worthless because cracking had been known for many years.

Placed Royalties in Escrow

STILL persisting in his refusal to pay for immunity, Mr. Suhr said he also ceased to make the royalty payments to the Richard Fleming Co., placing them instead in escrow with the Oil City Trust Co. The witness said that he was never sued by either member of the Patent Club. However, within a few months, his company was given immunity from suit anyway and the balance of the royalties were paid over. Control of the Pennzoil Co. was acquired recently by the South Penn Oil Co. Mr. Suhr said the Fleming process had proved satisfactory in operation and is still being operated at his plant.

Walter Miller, vice-president and director of the Marland Refining Co. in charge of refining operations, testified the Marland company, on his recommendation, had put in 18 Fleming units as best suited to their purpose after investigating all the processes then available. He stated that he had had some negotiations previously with Dr. William M. Burton, inventor of the Burton process and president of the Standard of Indiana and that during the negotiations Dr. W. M. Burton, president, had given him him a blank form of license contract.

Mr. Miller testified he wrote to Dr. Burton in May, 1922, that Mr. Marland and himself had decided that they could not put in the Burton process because they had limited capital available for plant expansion and they had selected another process because of its lower first cost, better yield and because it entailed no restriction on the marketing of the cracked products.

Dr. Burton asked Mr. Miller to return the license contract form which he did after making a photostat of it. The photostat was placed in evidence. It contained a clause giving the Standard of Indiana the option to buy one-third of the product of the cracking plant. This option clause was a feature of many of the Burton license contracts and is one of the points the government alleges constituted illegal restraint of trade.

He's Real Good At Figures

ROBERT E. WILSON, Standard Oil Co. of Indiana, on cross examination in the U. S. government's suit against the Patent Club, was asked by B. T. Rauber, of counsel for the government, for the relative dimensions of a chamber and a pipe coil shown in an old patent. It involved some nice calculation. Mr. Wilson borrowed a slide rule and went to work.

"If you calculate it in terms of 'pi' it will work out very quickly," offered the government lawyer with the air of a schoolmaster.

Mr. Wilson looked at the lawyer and smiled.

"Thank you," he said.

The joke is that Mr. Wilson was for years a professor in Massachusetts Institute of Technology and probably has forgotten more about mathematics than most lawyers will ever know.

He made the required calculation and the cross-examiner did not challenge his answer.

Mr. Miller testified that on Sept. 12, 1922, he received a letter from Dr. Burton setting forth the numbers of the patents owned by the Standard of Indiana and putting the Marland upon notice that they might be held for infringement. He forwarded the letter to Mr. Harvison and asked him what to do about it.

Pays For Immunity

MR. HARVISON notified him of the arrangement that had been made by the Fleming company as he had notified Mr. Suhr. Mr. Miller was not asked during his testimony whether the Marland Co. paid the money but the release from the Standard of Indiana and The Texas Co. which was introduced in evidence, shows that it did pay $90,000, or $5,000 a unit.

Both Mr. Miller and Mr. Suhr testified, when questioned by Mr. Marsh, that neither the Kellogg company nor the Richard Fleming Co., nor any representative of either ever attempted to stop or hinder the use of the Fleming process by their companies. Mr. Miller testified he had since installed both Cross and Dubbs cracking units because each was fitted best for certain conditions at the Marland plant. He said he had always operated the Fleming stills since their installation and they had always been and were satisfactory.

In an effort to refute a statement that had been made by Dr. McKee, the government expert, to the effect that he thought, when he visited the plant of the Standard Oil Co. of New York at Providence, R. I., in June, 1925, that the Burton stills there were operating on Mexican oil, Charles M. Shaeffer, manager of the Providence plant, was called to the stand. Under questioning by G. H. Dorr, attorney for the Standard of New York, he testified the Burton stills were not then and never had run on Mexican oil alone.

The cross examination of Mr. Wilson began Oct. 20. Mr. Rauber questioned him as to his education and experience in the oil business. Mr. Rauber also interrogated the witness at length as to the difference between the operation of various processes and sought to establish that prior art had shown that gas oil was known as a suitable cracking stock before Burton's time.

Mr. Wilson maintained the position that he took on direct examination that Mr. Burton was the first man to disclose gas oil as the only suitable type of charging stock for a bulk pressure distillation process like his own on a commercial scale.

Asked About Refluxing

MUCH of the questioning of Attorney Rauber on cross examination was designed to bring out an admission from the witness that the reflux of the heavy ends of the vapors into the still by the stillhead described in the Dewar and Redwood patent, was different only in degree from that ac-

(Continued on page 30)

Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

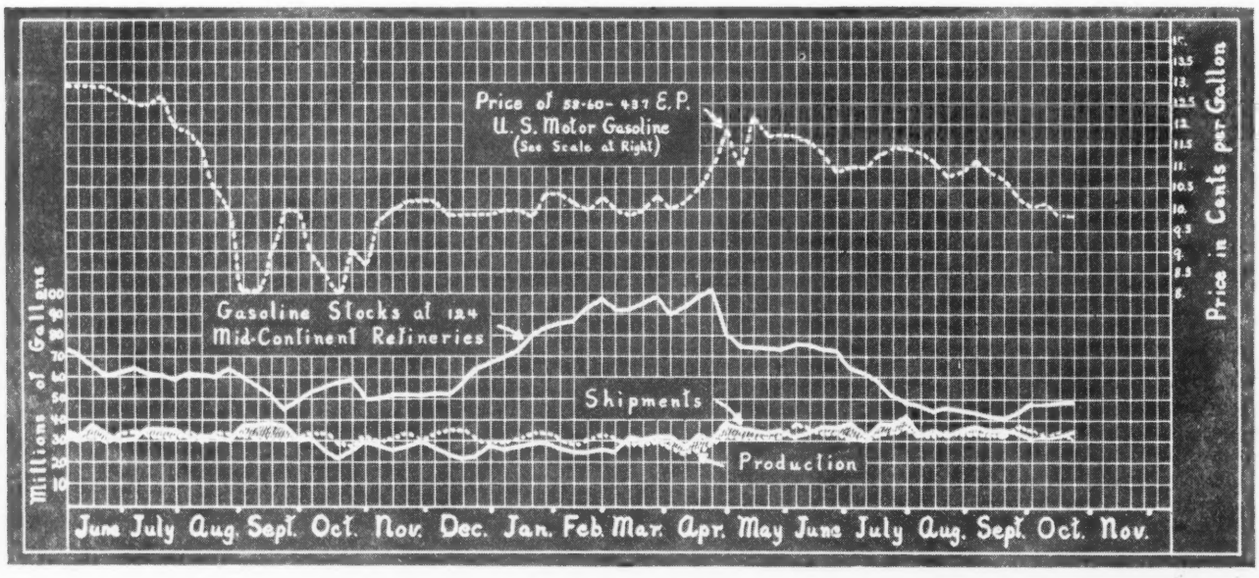
Mid-Continent Refinery Operations Week Ended Oct. 22 (By Telegraph)

	Kansas	Oklahoma	North and North and Cent. Texas	North North La.-Ark.	Total Week Total Week Ended Oct. 22	Total Week Total Week Ended Sep.24
Plants Reporting	23	46	41	14	124	124
Crude Cap. (Bbls.)	98,200	165,900	144,300	53,700	53,700	462,100
Cracking Cap	21,000	45,800	15,750	20,200	102,750	102,750
Da. Av. Crude Runs	54,345 — 8.5	112,995 + 6.3	64,264 — 5.2	45,117 — 16.1	276,721 — 3.7	298,554
Da. Av. Other Oils	9,423 +28.6	—2,714	2,893 — 38.5	930 — 55.0	10,532 —10.2	8,850
GASOLINE—Gallons						
Stocks Oct. 15	11,225,090	27,455,961	8,818,536	2,376,896	49,876,483	40,705,503
Prod. 10-15 to 10-22	9,079,109 — 0.7	15,405,297 — 5.2	6,689,893 — 9.7	3,083,369 — 7.5	34,257,668 — 5.2	37,146,781
Ship. 10-15 to 10-22	9,940,159 +15.4	14,576,723 — 7.0	6,578,153 — 14.1	3,289,950 + 8.6	34,384,985 — 1.7	35,264,083
Stocks Oct. 22	10,364,040 — 7.7	28,284,535 + 3.0	8,930,276 + 1.3	2,170,315 — 8.7	49,749,166 — 0.3	42,588,201
Ratio Sales to Prod.	109.5%	94.6%	98.3%	106.7%	100.4%	94.9%
KEROSENE—Gallons						
Stocks Oct. 15	2,589,706	5,180,375	2,437,111	554,870	10,762,062	9,067,729
Prod. 10-15 to 10-22	1,522,414 — 7.2	1,688,806 — 15.5	1,268,899 — 10.9	543,382 + 36.3	5,023,501 — 8.0	6,081,118
Ship. 10-15 to 10-22	1,531,615 +40.0	1,896,117 + 2.7	1,487,595 + 9.5	364,366 — 23.8	5,279,693 +10.5	6,316,446
Stocks Oct. 22	2,580,505 — 0.4	4,973,064 — 4.0	2,218,415 — 9.0	733,886 + 32.3	10,505,870 — 2.4	8,832,401
Ratio Sales to Prod.	100.6%	112.3%	117.2%	67.1%	105.1%	103.9%
STOVE DISTILLATE—Gallons						
Stocks Oct. 15	4,465,141	4,969,613	1,256,493	143,640	10,834,907	9,923,145
Prod. 10-15 to 10-22	1,115,856 +21.9	1,407,061 + 42.9	387,984 + 73.5	39,018 + 32.0	2,949,919 +37.0	1,915,067
Ship. 10-15 to 10-22	566,083 +12.5	445,487 — 24.2	298,127 — 6.9	116,634 +502.4	1,426,331 — 0.3	1,833,417
Stocks Oct. 22	5,014,934 +12.3	5,931,187 + 19.3	1,346,350 + 7.2	66,024 — 54.0	12,358,495 +14.1	10,004,795
Ratio Sales to Prod.	50.7%	31.7%	76.8%	289.9%	48.4%	95.7%
GAS OIL—Gallons						
Stocks Oct. 15	8,789,138	30,922,200	11,561,774	3,959,990	55,233,102	55,423,110
Prod. 10-15 to 10-22	1,189,093 —19.5	879,037	1,448,537 +148.4	2,388,386 — 21.8	5,905,053 +24.4	6,470,681
Ship. 10-15 to 10-22	1,941,711 +23.1	1,124,355 +122.7	380,014 +115.0	2,331,780 — 22.9	5,777,860 + 9.4	5,795,903
Stocks Oct. 22	8,036,530 — 8.6	30,676,882 — 0.8	12,630,297 + 9.2	4,016,596 + 1.4	55,360,295 + 0.2	56,097,888
Ratio Sales to Prod.	163.3%	127.9%	26.2%	97.6%	97.8%	89.6%
FUEL OIL—Gallons						
Stocks Oct. 15	12,774,634	71,589,568	15,701,139	10,626,093	110,691,434	104,238,992
Prod. 10-15 to 10-22	5,737,185 + 1.8	8,015,387 — 8.4	8,189,419 — 1.0	6,528,375 — 20.9	28,470,366 — 7.9	30,221,476
Ship. 10-15 to 10-22	5,729,292 +29.9	11,151,524 + 60.7	8,982,336 — 2.1	7,801,151 — 11.1	33,664,303 +14.9	28,058,272
Stocks Oct. 22	12,782,527 + 0.1	68,453,431 — 4.4	14,908,222 — 5.1	9,353,317 — 12.0	105,497,497 — 4.7	106,402,196
Ratio Sales to Prod.	99.9%	139.1%	109.7%	119.5%	118.2%	92.8%

Gasoline Produced by Various Methods, Week Ended Oct. 22

	Kansas	% of Total	Oklahoma	% of Total	Texas	% of Total	La.-Ark.	% of Total	Total	% of Total
Straight Run	6,126,640	67.5	11,254,031	73.0	5,381,588	80.4	1,122,381	36.4	23,884,640	69.7
Cracked	2,531,503	27.9	3,062,038	19.9	1,103,891	16.5	1,617,428	52.5	8,314,860	24.3
Natural	420,966	4.6	1,089,228	7.1	204,414	3.1	343,560	11.1	2,058,168	6.0
Total	9,079,109		15,405,397		6,689,893				34,257,668	

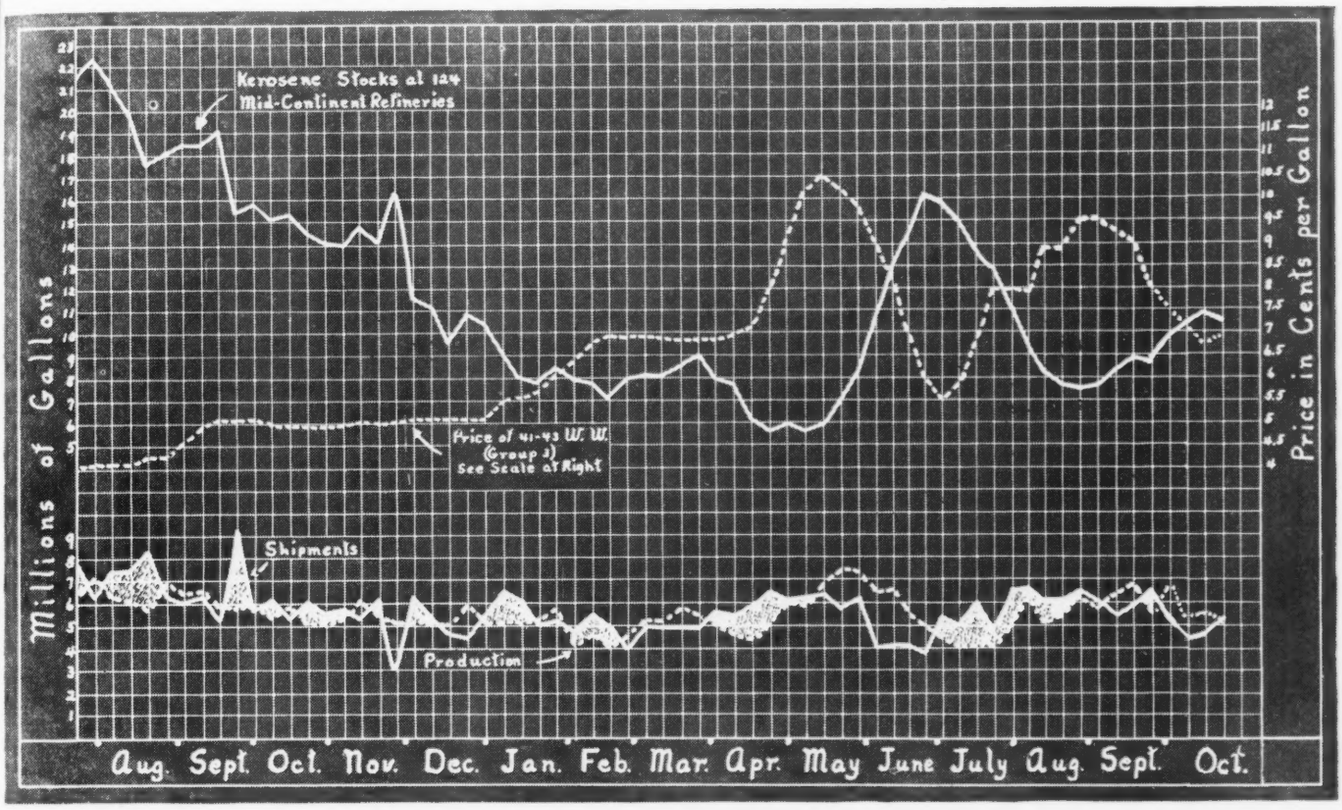
GASOLINE


Price of 58-60- 437 E.P. U. S. Motor Gasoline (See Scale at Right)
Gasoline Stocks at 124 Mid-Continent Refineries
Shipments
Production
Millions of Gallons
Price in Cents per Gallon
June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov.

Barometer of Mid-Continent Refinery Market— Week Ending Oct. 22

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 124 Plants to National Petroleum News

KEROSENE


Kerosene Stocks at 124 Mid-Continent Refineries
Price of 41-43 W. W. (Group 3) See Scale at Right
Shipments
Production
Millions of Gallons
Price in Cents per Gallon
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct.

Output and Shipments of Chief Products Near Balance

Staff Special—By Telegraph

TULSA, Oct. 26.

PRODUCTION of gasoline, kerosene and gas oil was brought almost into balance with shipments at 124 refineries in the southwest in the week ended Oct. 22. This situation was brought about through an 11,000-barrel reduction in daily average charges to stills. There was a slight reduction also in the volume of partly refined oils charged to refiners' stills.

Shipments of gasoline from the 124 plants fell only slightly compared with the preceding week. The total was 34,384,985 gallons compared with 34,969,632 gallons in the week ended Oct. 19. Production, however, was reduced approximately 2,000,000 gallons or 5.2 per cent to 34,257,668 gallons, compared with 36,136,361 gallons the week before. Stocks of gasoline, consequently, were reduced 130,000 gallons during the week to 49,749,166 gallons.

During the corresponding week last year the same group of plants produced 29,893,178 gallons of gasoline and shipped 28,170,811 gallons, increasing their reserves 1,800,000 gallons to a total of 55,903,838 gallons. Stocks this year are 6,000,000 gallons lower than a year ago and current shipments much larger. A year ago gasoline stock represented 14 days' supply on Oct. 23 while on Oct. 22 this year they represented only 10 days' supply.

Shipments of kerosene increased a half million gallons to 5,279,693 gallons while production was reduced 400,000 gallons to 5,023,501 gallons. Stocks were reduced for the first time in several weeks to 10,505,870 gallons, a reduction of 250,000 gallons.

Shipments of distillate continue to lag behind production as a result of continued fair weather. Stocks increased 1,500,000 gallons last week to 12,358,495 gallons.

Shipments of fuel oil from the entire group of plants increased 4,000,000 gallons to 33,664,303 gallons while production was reduced along with the other commodities to 28,470,366 gallons causing a reduction in stocks of 5,200,000 gallons to 105,497,497 gallons. Every group in the field except Kansas participated in the increased fuel oil business and drew on stocks. In Kansas stocks were increased only 8000 gallons.

The lower rate of manufacture in the whole field was shown by all areas except Oklahoma. In that state crude runs were increased 6000 barrels daily average.

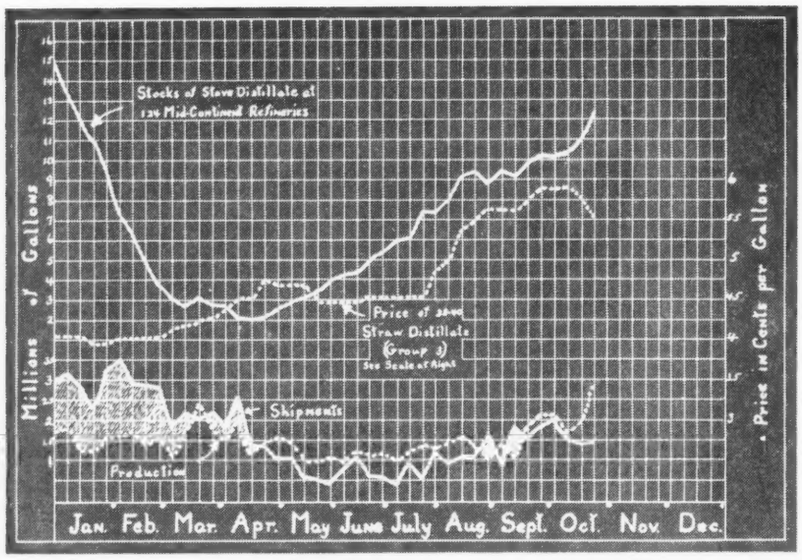
Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Oct. 22. Change in stocks figured from Sept. 24.

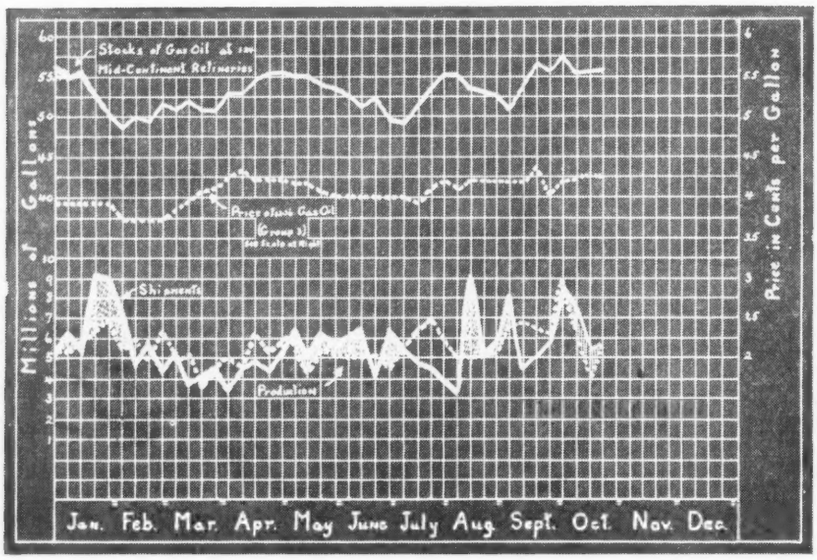
	Gallons
Gasoline	
Production	138,536,355
Shipments	131,375,390
Net change in stocks	+7,160,965
Ratio sales to production	94.8%
Kerosene	
Production	21,989,666
Shipments	20,316,197
Net change in stocks	+1,673,469
Ratio sales to production	92.4%
Stove Distillate	
Production	9,089,355
Shipments	6,735,655
Net change in stocks	+2,353,700
Ratio sales to production	74.1%
Gas Oil	
Production	26,681,824
Shipments	27,419,417
Net change in stocks	—737,593
Ratio sales to production	102.8%
Fuel Oil	
Production	118,607,991
Shipments	119,506,690
Net change in stocks	—904,69
Ratio sales to production	100.8%

Barometer of Mid-Continent Refining Market—Week Ending Oct. 22.

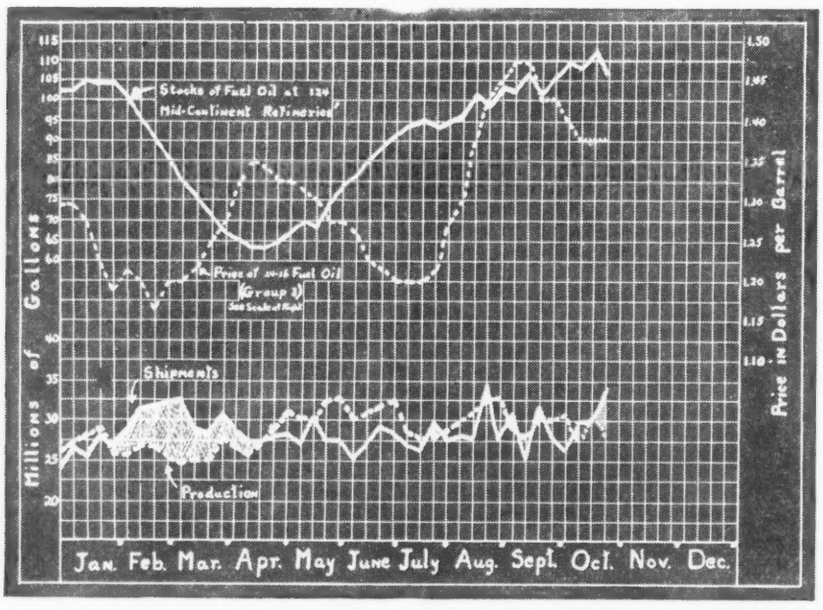
STOVE DISTILLATE


Stocks of Stove Distillate at 124 Mid-Continent Refineries
Price of 48-66 Straw Distillate (Group 3) See Scale at Right
Shipments
Production
Millions of Gallons
Price in Cents per Gallon
Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.

GAS OIL


Stocks of Gas Oil at 124 Mid-Continent Refineries
Price of 36 Gas Oil (Group 3)
Shipments
Production
Millions of Gallons
Price in Cents per Gallon
Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.

FUEL OIL


Stocks of Fuel Oil at 124 Mid-Continent Refineries
Price of 26-36 Fuel Oil (Group 3) See Scale at Right
Shipments
Production
Millions of Gallons
Price in Dollars per Barrel
Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.

(Continued from page 27)

complished by the Humphreys run-back, which consisted of two 12-inch vapor lines 40 feet long.

Mr. Wilson maintained that only a small amount of vapors, relatively, would be refluxed by the Dewar and Redwood stillhead while from 80 to 90 per cent of the vapors leaving the still were condensed and returned by the Humphreys run back. He maintained also that another vital difference lies in the fact that no considerable stripping of the light ends from the condensate on its way back to the still could be accomplished by the Dewar and Redwood apparatus while a surprisingly complete stripping was accomplished by Humphreys.

The difference in the percentage of vapors condensed in the Dewar and Redwood stillhead and the amount condensed by the Humphreys was so great as to constitute instead of a difference in degree, an entirely different operation.

Near the close of his direct examination the preceding week, Mr. Wilson was questioned as to the possibility of the original Dubbs apparatus being used for cracking oil. The Dubbs patent was one of those cited by the patent examiners against Adams.

Mr. Wilson testified that he had operated two types of Dubbs plants. One of these was built directly upon the drawings and specifications in the original Dubbs patent and the other was the plant built in California as an exhibit in the infringement suit brought by Dubbs against the Standard of Indiana.

Mr. Wilson testified that it was impossible to accomplish substantial cracking in either of these plants when operated under the temperature and pressure conditions prescribed in the Dubbs patent. He said, however, they were very efficient plants for dehydrating cut crude oil.

Special Master Martindale during the hearing Oct. 22 narrowed further questioning to patents in the prior art which dealt with operations under pressure. Much of the cross examination of Mr. Wilson by Mr. Rauber had been based on prior patents under which operation was at atmospheric pressure.

The master asserted that the Burton and Humphreys patents clearly stated that their inventions were designed to operate under pressure and that there was no relevancy in referring to prior art which did not deal with pressure distillation.

NEW YORK, Oct. 23.—The fall meeting of the American Association of Petroleum Geologists, which will be held in New York Nov. 15, 16 and 17, will be devoted almost entirely to papers on foreign fields. The program has not been finally completed. Sessions will be held in Hotel Pennsylvania. One of the speakers will be Dr. W. A. J. M. van Waterschoot van der Gracht, Marland Oil Co., who will present some concepts of continental drift. E. L. DeGolyer, president, Amerada Petroleum Corp., is chairman of the committee.

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Type K
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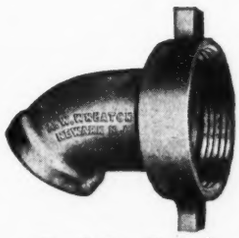


Tank Car Swivel
Reducing Connection

Type A
Tank Truck
Faucet

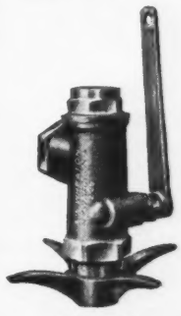
Type B
Tank Truck
Faucet

Type 24
Tank Truck
Faucet

Anti-Freeze
Valve

Type 12
Gooseneck
Open Hose Nozzle

Type 36
Quick Hose Coupling



Type 25
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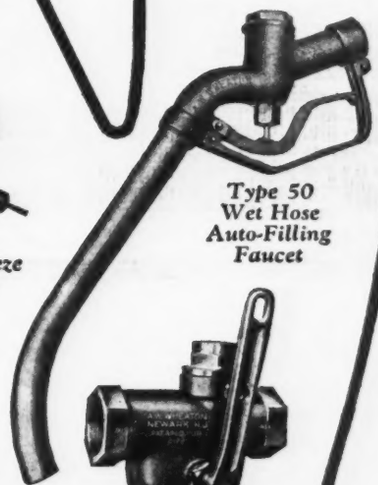
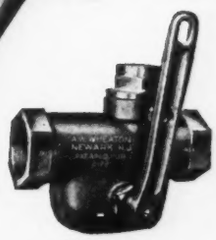


Type 50
Wet Hose
Auto-Filling
Faucet



Type 26
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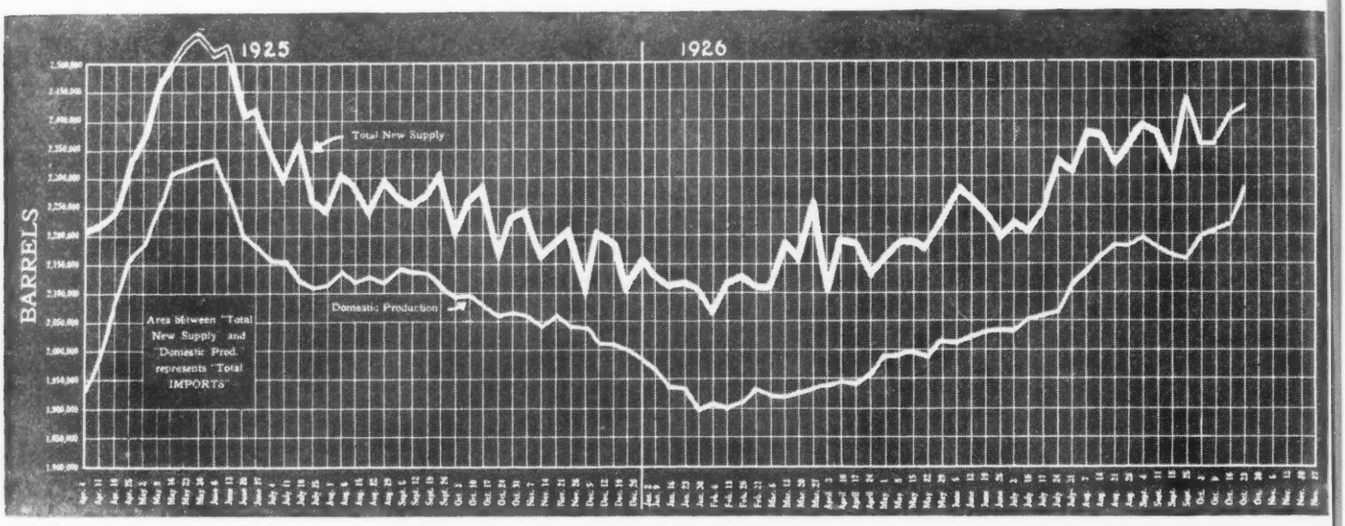
A. W. WHEATON BRASS WORKS
NEWARK, N. J.

Wheaton

Daily Average Crude Oil Production and Imports



Daily average gross crude output of United States, by fields, for week ending with dates given below, as compiled by American Petroleum Institute.

Production Summary

	Oct. 23	Oct. 16
Production east of the Rockies	1,667,350	1,625,850
Increase		41,500
Total Production in U. S.	2,286,250	2,234,150
Increase		52,100
Crude Oil Imports	140,143	168,143
Decrease		28,000
Total Crude Supply	2,426,393	2,402,293
Increase		24,100

OKLAHOMA

	Oct. 23	Oct. 16
North Braman	23,550	14,800
South Braman	6,450	6,750
Blackwell	3,850	3,900
Hubbard	2,600	2,650
Thomas	2,000	1,800
Tonkawa	35,250	36,350
Garber	24,650	25,000
Burbank	49,100	49,150
Osage, outside Burbank	34,300	34,400
Watchorn	3,950	4,150
Cushing	21,500	21,450
Yale Jennings	13,350	13,750
Davenport	5,650	5,400
Bristow-Slick	27,100	27,150
North Okmulgee	17,450	17,450
Lyons-Deaner	3,950	3,950
Stroud	2,000	2,000
Cromwell	15,150	15,100
Papoose	9,200	9,500
Wewoka	26,550	26,950
Duncan district	7,350	7,400
Graham	10,650	10,600
Fox	6,500	6,500
Healdton	14,950	14,950
Hewitt	11,150	11,150
Seminole	69,600	47,200
Others	66,900	66,700
Total Oklahoma	514,700	486,150
Increase		28,550

KANSAS

Greenwood County	44,700	44,200
Florence-Covert	1,950	1,950
Peabody-Elbing	4,100	4,150
Eldorado-Towanda	13,700	13,750
Augusta-Fox-Bush	5,000	5,000
Rainbow Bend	3,400	3,400
Russell	4,500	4,500
Others	37,250	37,350
Total Kansas	114,600	114,300
Increase		300

NORTH LOUISIANA

Homer	5,550	5,550
Haynesville	9,100	9,150
Caddo, light	9,850	9,800
Caddo heavy	4,450	2,800
De Sota, Red River	4,050	4,050
Elm Grove	550	550
Bellevue	2,100	2,050
Cotton Valley	7,550	7,600
Urania	15,250	15,450
Total North Louisiana	58,450	57,000
Increase		1,450

ARKANSAS

	Oct. 23	Oct. 16
El Dorado	6,800	6,950
Smackover, light	13,800	14,000
Smackover, heavy	118,350	117,850
Stephens	1,550	1,600
Nevada	1,800	1,850
Lisbon	7,550	7,650
Total Arkansas	149,850	149,900
Decrease		50

NORTH TEXAS

Burkburnett	13,750	13,600
Electra	16,600	16,600
Iowa Park and K-M-A	3,800	4,050
Wilbarger	14,000	13,950
Hutchinson County	147,950	143,050
Balance Panhandle	14,000	11,600
Petrolia	700	700
Archer County	32,500	32,700
Montague	8,300	7,300
Others	850	800
Total North Texas	252,450	244,350
Increase		8,100

EAST CENTRAL TEXAS

Mexia	11,200	11,200
Currie	750	750
Richland	1,350	1,350
Corsicana-Powell	24,200	24,300
Wortham	6,000	6,050
Nigger Creek	11,800	12,250
Total East Central Texas	55,300	55,900
Decreast		600

WEST CENTRAL TEXAS

Stephens County	10,700	10,700
Eastland County	5,450	5,500
Desdemona	1,700	1,700
Young County	7,100	6,950
Brown County	12,650	12,950
Palo Pinto County	400	400
Callahan County	4,100	4,150
Shackleford County	8,950	8,850
Reagan County	29,800	29,250
Mitchell County	3,700	3,650
Crane and Upton Counties	11,850	11,000
Coleman County	1,600	1,600
Others	2,800	2,450
Total West Central Texas	100,800	99,150
Increase		1,650

SOUTHWEST TEXAS

Luling	20,450	20,650
Laredo District	16,250	16,850
Somerset	1,950	1,950
Lytton Springs	3,600	3,650
Piedras Pintas	50	50
Others	500	500
Total Southwest Texas	42,800	43,650
Decrease		850

GULF COAST

Goose Creek	7,450	7,500
Hull	22,700	22,650
Saratoga	1,250	1,450
Blue Ridge	1,850	1,950
Damon Mound	1,000	850
Batson	1,600	1,600
West Columbia	8,700	8,900
Humble	3,800	3,750
Pierce Junction	5,200	3,600
Sour Lake	7,900	7,550
Spindletop	82,900	78,900
Orange County	6,650	6,700
Edgerly	850	1,000
Evangeline	1,250	1,050
Vinton	5,800	6,000
Lockport	4,100	4,150
South Liberty	3,650	4,050
Big Creek	1,250	1,300
Boling	2,150	2,150
Others	1,950	1,650
Total Gulg Coast	172,000	166,750
Increase		5,250

ROCKY MOUNTAIN

Wyoming

	Oct. 23	Oct. 16
Salt Creek	45,150	45,900
Grass Creek	3,100	3,100
Elk Basin	850	800
Big Muddy	3,200	3,300
Lost Soldier	5,150	5,150
Rock River	2,950	2,750
Hamilton Dome	...	(Shut in)
Teapot Dome	1,050	1,050
Lance Creek	1,000	1,050
Others	2,200	2,150
Total Wyoming	64,650	65,250
Decrease		800

Montana

Cat Creek	2,500	2,600
Sunburst	18,000	18,000
Others	250	200
Total Montana	20,750	20,800
Decrease		50

Colorado

Moffat (Craig	2,850	3,100
Fort Collins	3,450	3,550
Florence	450	450
Others	750	800
Total Colorado	7,500	7,900
Decrease		400

New Mexico

Artesia	3,000	3,000
Hogback	700	750
Table Mesa	250	700
Rattlesnake	550	1,300
Total New Mexico	4,500	5,750
Decrease		1,250
Total Rocky Mountain	97,400	99,700
Decrease		2,300

CALIFORNIA

Santa Fe Springs	47,500	47,500
Long Beach	95,000	95,000
Huntington Beach	60,000	53,000
Torrance	27,000	27,000
Dominguez	21,500	21,000
Rosecrans	14,000	13,000
Inglewood	41,000	41,000
Midway-Sunset	94,000	94,000
Ventura Avenue	49,900	48,800
Others	169,000	168,000
Total California	618,900	608,300
Increase		10,600

EASTERN

(Including Ill., Ind., Ky., Ohio, W. Va., Pa., and N. Y.)	109,000	109,000

Seminole Closes Week with Daily Output Of More than 81,000 Barrels

By A. F. Hinton
N. P. N. Staff Writer

TULSA, Oct. 24.

OKLAHOMA production averaged 514,375 barrels daily in the last week, according to National Petroleum News estimate, increasing 28,325 barrels over estimate for the preceding week, and marking the first time since December, 1924, that it has been as high as a half million barrels.

The sensational rise of production at Seminole, which has more than doubled its output since the first week in October, was the principal factor in this week's large increase. Seminole output increased 25,420 barrels to a new high mark of 69,560 barrels daily average for the week. As an indication of the rapidity with which Seminole's production is growing, its actual output at close of the week was more than 81,000 barrels as compared with its average for the week given above.

In the last four weeks, Oklahoma's production has increased 50,515 barrels, of which 40,000 barrels came in the last two weeks. Seminole has moved from 29,935 barrels for the week ended Oct. 2 to 69,560 barrels last week.

Another factor in this upward movement of the state's crude output has been the Bracan district, Kay county, which recorded a gain of 8050 barrels last week, with daily average of 29,920 barrels. This field is producing 10,890 barrels more now than it was at the start of October. These two fields, therefore, are entirely responsible for the big increase recorded by the state as a whole.

The end of the week saw Seminole producing 81,250 barrels from 37 wells, of which 16 wells in the Wilcox sand accounted for 71,380 barrels. Recent developments have resulted in completion of some of the field's largest wells and have extended the producing area considerably toward the south. Wilcox sand production is scattered over an area two miles north and south and nearly as far east and west, with prospects it will be extended about five-eighths mile farther south next week.

Pipe line facilities in the field are being taxed to handle its production. Congestion has caused the loss of some oil where production got ahead of pipe line and tankage facilities, and has delayed completion of several wells which have been drilled to top of producing horizon and shut down to await pipe line connections.

South End Important

THE most interesting tests now nearing completion are in the south end of the field, where three wells, any one of which will have an important bearing on the field's future, should be drilled in within the next few days. One of these tests, Sinclair Oil & Gas Co. No. 1, Cudjo in the ne. cor. nw. of 35-9-6, is a quarter mile due south of present production, the nearest well being Pure Oil Co.'s No. 2 Strothers, which is making better than 7000 barrels a day.

The Sinclair well is drilling below 3940 feet and has 1000 feet of oil in the hole, the first oil showing having been found at 3890 feet. This company also is drilling a well in the nw. cor. of Sec. 35, about a half mile west of No. 1 Cudjo, which is below 3900 feet. Both these wells are reported to be running high structurally and indications are that they will prove to be important extensions to the field's productive area. It is expected that they will be completed early in the coming week.

Superior Oil Co. is drilling its No. 1 Cudjo in the center of the nw. se. nw. of Sec. 35, the farthest south well in the field, and has set the 6-inch casing preparatory to drilling in. It should be in late in the week, and, as it is also reported to be high on formations, is being watched with much interest.

During the last week, the field was extended a full quarter mile to the west when the Gypsy Oil Co. drilled in its No. 1 Wolf, in the se. cor. w½ nw. of 26-9-6. This well made 9100 barrels in the past 24 hours and is 12 feet in the Wilcox sand topped at 4080 feet. It started off at the rate of 840 barrels in its first four hours after the pay had been touched and made 315 barrels an hour after having being deepened.

Another new well brought in during the week was Pure Oil Co. No. 2 Strothers, in the ne. cor. sc. sw. of Sec. 26, the farthest south production in the field so far. This well, which is a southwest offset to No. 3 Bowlegs of the Indian Territory Illuminating Oil Co., now the field's largest producer, made 8310 barrels in the past 24 hours. It got the sand at 4058 feet and has been drilled to 4070 feet. Its maximum production after having been deepened two feet to present total depth was 572 barrels an hour. The Pure's No. 1 on this 160-acre lease, located in the ne. cor. of 26, two locations north of No. 2, is drilling at 4088 feet in lime and has 400 feet of oil in the hole. It will be drilled in this week if pipe line connections can be obtained.

Big Wells in Braman

IN the north Braman field, Kay county, where a number of big wells have been completed recently in the Wilcox sand, the Comar Oil Co. No. 6 W. Harvell was making 7730 barrels at last reports at total depth of 3371 feet. This well started off last week at 570 barrels an hour, but did not maintain that output and was producing 8200 barrels early in the week. This company's No. 5 Priboth in the ne. cor. nw. of 21-29-1w., also in the North Braman field, was deepened five feet during this week from 3392 to 3397 feet and its production increased from 4400 to 6560 barrels. Further deepening brought its production up to

Drilling Operations in Oklahoma, Kansas and North Texas

	Oct. 23 — Week Ending					Oct. 16				
OKLAHOMA	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Total
Burbank	19	16	15	...	50	4	5	22	...	31
Other Osage	9	7	46	6	68	12	14	45	12	83
Bristow-Cushing	18	13	129	18	178	19	18	133	14	184
North Oklahoma	5	26	145	50	226	10	24	126	70	230
South Oklahoma	28	27	157	45	257	23	24	149	41	237
Muskogee	.	7	72	23	102	...	11	65	21	97
Okmulgee-Bristow	7	43	127	33	210	10	41	129	31	211
Tonkawa	1	1	13	3	18	2	1	14	1	18
Wewoka-Cromwell	21	32	252	33	338	17	33	265	26	341
Total Oklahoma	108	172	956	211	1447	97	171	807	216	1432
KANSAS	65	71	206	106	448	65	71	208	116	460
NORTH TEXAS										
Eastland County	..	2	61	10	73	...	3	59	9	71
Stephens County	..	11	26	12	49	...	13	22	12	47
Texas Panhandle	..	152	351	119	622	...	142	373	119	634
Mexia District	..	4	14	8	26	...	3	20	6	29
E. Texas Wildcats	..	4	12	12	28	...	2	14	11	27
W. Texas Wildcats	..	179	392	116	687	...	178	386	111	670
Wichita Falls	..	90	140	64	294	...	95	135	65	295
Total N. Texas	...	442	996	341	1779	...	431	1009	333	1773
GRAND TOTAL	173	685	2158	658	3674	162	673	2024	665	3665

Completions in Oklahoma and Kansas, Week Ending Oct. 23

OKLAHOMA

Carter County

Company	Well	Location	Depth	Initial Prod.
Magnolia	5	SWc NE SE 33-1-3W	2084–3015	50
Humble	6	NEc SE NE 33-1-3W	3112–3228	20
Gypsy	2	SWc NW SW 34-1-3W	2177–2556	175
Gypsy	1	SWc NW NE 3-2-3W	2337–2709	115
Magnolia	12	SWc SE NE 23-2-3W	2058–2068	455
Humble	1	NWc SW 17-2-2W	T.D.3393	Dry

Creek County

Burlengane et al	7	SEc SW NW 13-19-8E	2879–2883	150
Burlengane et al	12	SEc SW NW 13-19-8	1540–1655	40
S. S. Home	26	CSL NW NE 5-18-7E	2565–2620	100
Mid-Cont	24	NEc SE SW 14-17-7E	T.S.2936	660
Savoy	6	SWc NE SE 22-17-8	2359–2409	5
Inter-Ocean	5	NWc NE SW 23-16-8	3075–3079	100
Aztec	4	NEc NW NE 11-14-8	2452–2487	10
Holmes et al	1	NWc 5-18-11	1770–1806	75
Sunray	9	SEc NW 6-18-12	2000–2026	100
Roxana	3	SEc NW NE 10-17-9	2039–2067	100
Mid-Cont	4	SEc SW NW SW 24-17-10	1805–1869	15
Wright	12	SWc NE NW 24-17-10	1797–1848	65
Cumberland et al	1	SWc 18-17-11E	1843–1883	40
Tibbens	3	CNL SW NE 31-15-9	2305–2367	7
Hall-Donnelly	2	NEc SE SW 20-14-10	2814–2824	60
Slick	1	NW SW SE 32-14-10	3376–3391	140
Barnsdall	1	SWc NE SE 27-17-8	T.D.3626	Dry
Sparkes et al	1	NWc NE SE 8-18-10	T.D.3225	Dry

Creek County

Twin State	8	SWc SE 9-18-11E	T.D.2524	Dry
Curtis	2	NEc SE 5-18-12	T.D.2295	Dry
Hiram	1	SWc NE 35-17-10	T.D.2940	Dry

Garfield County—Garber

Cowan et al	4	NE NW NE NW 1-22-4W	1433–1441	35
Sinclair	58	SE NE NE 13-22-4	4212–4217	843
Sinclair	4	CSL NW 18-22-3	2804–2808 OWD	10
Sinclair	26	SWc NW NW 18-22-3	2723–2735	5
Sinclair	18	SWc NE SW 19-22-3	1220–1235	16
Bu-Vi-Bar	1	NWc SW 31-23-4	T.D.4501	Dry

Grady County

Briscoe-Hall	2	NE NW SE 34-3-5W	1433–1437	20
Briscoe-Hall	3	NWc SE 34-3-5	1433–1434	35

Hughes County

Foster	3	NEc NW NE 4-9-9E	3793–3800 OWD	30, 7M
McCulloch	1	C NW NW 22-8-9	T.D.4507	Dry
Humble	2	NEc SE NE 5-7-8	T.D.4197	Dry
Indep. et al	1	NWc SE 5-7-8	T.D.4272	Dry
Walton et al	1	CEL NE NW 8-6-10	T.D.3701	Dry

Kay County

Comar	9	NEc 21-29-1W	2090–2135	147
Wentz	2		3404–3410	43
Marland	1	NEc NW 31-27-1	T.D.3921	Dry

Lincoln County

Magnolia	4	SEc NE SW 8-15-6	4033–4036	218

Marshall County

United 8	8	SEc NW SE 24-5-5E	578– 583	15
United 8	9	NWc SE SE SE 24-5-5	555– 565	15
United 8	10	NWc SE SE 24-5-5	577– 581	15

Muskogee County

I. T. I. O	7	C SE 1-14-17E	T.D.1130	Dry

Noble County

K. D	3	NE NW SE 1-22-2	700– 712	27,000 gas
K. D	1	SEc NW 1-22-2	T.D. 720	Dry

Okfuskee County

Peerless	1	SWc NE 13-13-8	T.D.4101	Dry
Lenox	1	NWc NE 3-11-9	T.D.3944	Dry
Morgan et al	1	NWc 19-10-11	T.D.2710	Dry

Okmulgee County

Campbell et al	1	SEc NW NE 4-14-12	2725–2750	11M
Swindler	9	C SE NE 25-13-11	2448–2462	50
Elm	8	CWL SW SE 13-14-14	1027–1076	150
Hewitt	9	NWc SE NW 33-14-14	1200–1230	75
Devonian	3	SEc NE SE 23-15-12	T.D.2910	Dry
Hammon et al	3	CNL S½ NW 35-15-12	T.D.2785	Dry
Rebold	6	SEc NE SE 5-14-11	T.D.2426	Dry
Haley et al	1	SWc SE 10-13-12	T.D.2940	Dry
Morton	7	NEc SW NE 7-12-12	T.D.3600	Dry

Osage County—Burbank

Phillips	9	SW NW SW 1-27-5E	2956–3004	430
Phillips	12	SEc NE SW 1-27-5	3055–3056	20
Phillips	11	SWc NE SE 7-27-6	2942–2995	2050
Peters	5	SEc SW NW 17-27-6	2939–2993	300
Peters	1	NEc SW 17-27-6	2784–2816	1680
Phillips	11	SW NE SE 20-26-6	2943–3004	100

Osage County

Company	Well	Location	Depth	Initial Prod.
Oliphant	4	SWc 19-25-8	2500–2519	25
Osage Gas	371	SWc SE SW 8-27-11	1896–1943	½M
Tidal Osage	2	SE NE SE SE 1-23-8	2370–2378	1077
Tidal Osage	3	SW SE SE 1-23-8	2432–2441	462
Tidal Osage	1	SEc SW 34-23-9	1019–1036	4
Mitchell	5	SWc SE NW NW 7-21-9	515– 520	55
S. S. Home	97	SW SE NE 24-21-9	2150–2168	5M
Continental	16	CSL N½ NW 28-20-12	2054–2058	35
Winona	8	CEL W½ E½ NE 29-20-12	1998–2000	764
Lake et al	1	SE NE SW 6-24-8	–2860	Dry
I. T. I. O	239	CWL E½ W½ SW 25-24-9	T.D.2514	Dry
Devonian et al	10	NE SW NW 20-20-12	T.D.2239	Dry

Pawnee County

Magnolia	3	NWc SE NE 32-20-6E	3340–3343 OWD	441
Mid-Cont	22	SWc SE NW 16-20-7	2578–2598	35
Smith et al	1	NWc NE NE 27-20-7	2560–2567	5
Ryan	4	SWc NE NE 34-20-7	T.D.3353	Dry

Payne County

Mid-Cont	1	NWc SW 3-19-3	T.D.4532	Dry
Reiter-Foster	1	SWc 4-19-1W	4775–4787	45
M. T. C	5	SEc NE NW 26-18-3	4240–4246	20

Pottawatamie County

Wrightsman et al	1	NWc NE SE 20-6-4E	T.D.3800	Dry

Seminole County—Seminole

I. T. I. O	2	NEc NW SE 24-9-6	4024–4035 OWD	29
I. T. I. O	2	NWc SW NE 23-9-6	4165–4182 OWD	1097
Mid-Cont	4	SEc SW 24-9-6	3920–3951	600
Indep. et al	2	SEc SW NE 26-9-6	4101–4105	5612
Indep. et al	3	NEc SW NE 26-9-6	4078–4082	2800
Carter	1	NEc SE 34-9-6	2997–3005	5M

Seminole County

Superior	1	SEc NE 31-8-6E	4345–4373	30
Champlin et al	1	NE SE SW 15-8-8E	3185–3187	75M
Ramsey	6	NW SE SE 31-8-8	4179–4181	2908
Dixie	4	SE NW NE 6-7-8E	4126–4145	10
Magnolia	2	SEc SW NE 6-7-8	4197–3209	10
Indep. et al	4	SWc NW NW SW 5-7-8E	T.D.4261	Dry

Stephens County

Pearce-Brown	1	SWc NW SW 26-1-8W	1450–1461	6M

Tulsa County

Superior	2	SWc SE SW 6-19-10E	2008–2035	145
Holmes et al	1	NWc NE NE 18-19-10	2072–2092	20
Savoy	1	NEc SW 7-16-14	1408–1412	6M
S. S. Home	1	SEc NE SW 23-19-11	T.D.2421	Dry
Dickinson	1	NWc SE 12-17-14	T.D.1970	Dry

KANSAS

Butler County

Liberty	1	CSL NE NE SE 26-26-5E	2735–2750	30
Empire	12	C NW NE SE 35-27-4E	2525–2550	110
Hoyt et al	6	CWL W½ SE NW 20-27-6	2698–2724	15
Golden et al	1	C NW NW SW 20-26-7	T.D.2802	Dry

Chase County

Manhattan et al	1	C SW SW SW 1-21-9E	T.D.2500	Dry

Cowley County

Roth-Faurot	1	NWc SE 20-31-5	T.D 2993	Dry
Gypsy	1	C SE SE 13-32-4	2961–3022	80
Hull	2	C SE SE NW 15-32-4	3274–3294	100
Hull	1	C NE NE SW 15-32-4	3260–3287	250
Lewis	10	SWc SE SW SW 31-30-6	2879–2891	50
Twin State	1	C SE SW SE 21-31-4	2374–2381	175

Elk County

Landon et al	1	C NW NW NW 34-31-10E	2317–2318	35
Landon et al	1	C NW SE 30-30-10	T.D.1495	Dry

Greenwood County

Manhattan	2	C NE SW NE 2-22-10E	2075–2120	150
Syndicate	3	C SE NE SE 2-22-10	2026–2075	125
Syndicate	4	C SW SE SE 2-22-10	2035–2121	125
Davis et al	23	C NW SE SE 12-22-10	2066–2140	100
Skelly	16	C NW SW NW 27-22-11	1865–1938	300
Empire	8	C SE SE SE 4-22-12	1805–1827	60
Simmons et al	6	CWL SE SW SW 9-23-11	1976–2002	60
Haverhill	13	NEc SE NE NE 9-23-13	1570–1610	40
Kanson	3	NEc SW 6-24-11	1843–1857	50
Manhattan	1	C NE NE NE 18-24-11	1867–1879	100
Polhamus et al	1	C SW SW SW 8-24 11	T.D.1910	Dry

Lyon County

Theta	5	C NW SE NW 30-21-10	2240–2292	85

McPherson County

Fowler et al	1	NWc 3-18-2W	T.D.3300	Dry

Morris County

Nicoll et al	1	NEc NE 5-17-7E	678– 680	½M
Nicoll et al	1	SWc SE 6-17-7	399– 400	.10M

Sedgwick County

Carr et al	1	NWc SW 17-29-1E	T.D.3814	Dry

Sumner County

Marland	1	NEc 9-33-2E	T.D.3528	Dry
Roxana	1	C SE SE NW 17-32-2	3658–3684	134
Twin State	1	C NW NW SE 17-32-2	3685–3715	700

its present figure of 8640 barrels daily. Comar's No. 8 Priboth, a west offset to the number 6-W. Harvell is also in the Wilcox sand and is flowing 300 barrels of oil and 59 barrels of water an hour.

Wells Completed

COMPLETIONS in Oklahoma during the week just closed totaled 106 of which 67 were oil wells, eight were gas wells and 31 were dry holes. Last week 91 completions were divided 56 oil wells, five gas wells and 30 dry holes. The 67 oil wells in this week's report had total initial production of 25,004 barrels, an average of 373.2 barrels per well. This is a considerable increase over last week when 56 wells brought in 9495 barrels of new production, with per well average of 169.5 barrels. Kansas completions this week totaled 32, divided 22 oil wells, two gas wells and eight dry holes. The 22 oil wells brought in 2874 barrels of new production with per well average of 130-6 barrels.

NIAGARA FALLS, N. Y.—Three service stations were recently completed by the Simon Oil Co. Two of these are here and one at La Salle, N. Y., reports David Dimet, manager. With the one it is building here now, it will have a total of six service stations.

John Barbour Gives You Good "Oil Field" Reasons for Relying on **International Harvester Trucks**— He Has a Fleet of 12

"We have made the International Truck standard equipment and have disposed of all other makes. From our experience we believe that the International Model 63 truck will give more efficient and economical service under the severe strains than any truck of any other make. We have been particularly well pleased with the ability of these trucks to deliver their loads in territory where the roads are very bad or, as is frequently the case, where there are no roads at all.

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By John B. Barbour Iowa Park, Tex.

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INTERNATIONAL SERVICE—*Everywhere in the Oil Fields*

—We have 120 Branches in the United States—largest Company-owned truck service organization in the world, supplemented by dealers everywhere

Completions in N. C. & E. Texas, & Panhandle Week Ending Oct. 23

Archer County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Texhoma	9-Kemp	W. V.	1799–1792	72
Burns	2-Turberville	Carson	1507–1523	700
Kruger et al	2-Turberville	Carson	1492–1523	900
Kruger et al	3-Turberville	Carson	1497–1524	1821
Marland	4-Turberville	Carson	1525–1510	600
Marland	7-Turberville	Carson	1493–1525	600
Plains	2-Turberville	Carson	1497–1523	450
Simms	8-Turberville	Carson	1500–1531	550
Simms	9-Turberville	Carson	1492–1527	930
Texas	10-Turberville	Carson	1493–1523	1171
Texas	11-Turberville	Carson	1497–1505	725
Chenault et al	6-Turberville	Carson	1497–1505	15
Chenault et al	1-Turberville	Carson	1490–1494	15
Simms-Burns	1-Turberville	Carson	1498–1504	250
Wanderer	2-Turberville	Carson	1497–1503	100
Marland	5-Turberville	Carson	1497–1501	10
Gates	14-Thomas	Thomas	1158–1167	55
Gates	16-Thomas	Thomas	1148–1173	70
Marland et al	2-White	Humble	1165–1168	16
Magnolia	4-Hudson	C. R.	1160–1167	22
Pandem	5-Hudson	Harris	1142–1154	30
Hines-Tex	1-Thorn	Spillers	T.D.1825	Dry
Shappel	1-Yates	ATNC	T.D.1875	Dry
Chenault et al	2-Turberville	Carson	T.D.100	Dry
Pandem	9-Thomas	Thomas	T.D.1478	Dry
Texas	14-Richardson	Anderson	T.D.1502	Dry

Brown County

Williams	1-Lawson	King	T.D.1332	Dry
Mid-West	3-Suttles	Mitchell	T.D.1138	Dry
Hurley	1-Perry	Van Winkle	T.D.2179	Dry
Parsons et al	1-Eiland	Hawkerbert	T.D.1006	Dry
Willhauson et al	1-Bourn	Reed	T.D.1410	Dry
Kone	5-Foster	Benson	1199–1220	100
McKenna et al	7-Foster	Benson	1155–1184	150
McKenna et al	11-Foster	Benson	1185–1200	125
McKenna	12-Foster	Benson	1186–1206	150
Slick	1-Newton	Sanders	2920–2950	25
Humble	2-Wooldridge	ET	1254–1273	150
Humble	3-Wooldridge	ET	1240–1264	150
McLester	8-Wooldridge	Gaines	1255–1270	350
Wilson et al	1-Stone	ET	1218–1244	70
Hill-West	15-Newton	Mitchell	1210–1237	40
Choate et al	1-Las	Stubblefield	1301–1308	540
Magnolia	2-Fry	Chaudoin	1321–1324	65
Sawyer et al	2-White	Vernon	1219–1241	130

Callahan County

Hughes	1-Frande	Comal	T.D.2300	Dry

Carson County—Panhandle

Gulf	14-Burnett	L&GN	3064–3071	20

Coleman County

Burk-Greis	5-Dibrell	Hicks	1906–1921	2
Schermerhorn	1-Gray	Victoria	T.D.2712	Dry

Cooke County

Hoosier	1-Dennis	Hernandez	1248–1274	20
Sun	4-Hyman	Moss	1208–1268	43
Tucker-Fox	6-Hyman	Moss	1255–1228	20

Crane County

Texas	7-King	GCSF	2304–2326	100

Eastland County

Eastland	4-Wright	McLennan	1180–1201	3M
Ark. Fuel	1-Connele	Usery	1225–1231	
Corzelius	1-Morris	McLennon	T.D.3302	Dry

Gray County—Panhandle

Magnolia	4-Merton	I&GN	2972–3062	375
Pure	1-Benton	I&GN	3049–3118	150
Gulf	5-Reynolds	I&GN	2910–2923	1197
Wilcox	9-Reynolds	I&GN	2969–3000	120
Wilcox	13-Reynolds	I&GN	2863–2380	1600

Hutchinson County—Panhandle

Murchison-Fain	2-Twitchell	Torchell	2876–2918	140
White Eagle	4-Johnson	H&TC	2680–2706	100

Jack County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Baytex	1-Bowmen	Parkner	T.D. 800	Dry
Camp	1-Rouneaville	Parker	T.D. 800	Dry
Watsharon	1-Carpenter	TEL	T.D.3175	Dry
Seaboard	1-Loving	TEL	T.D.2750	Dry

Limestone County

Moss et al	4-Rossen	Varela	2950–2958	150
Transcontinental	5-Cogsdell	Varela	2811–2817	250
Transcontinental	7-Cogsdell	Varela	2833–2836	400
Transcontinental	11-Rosson	Varela	T.D.2835	210
Transcontinental	2-Medlock	Varela	2803–2810	500
Transcontinental	2-Cochrum	Varela	–2862	Dry
Transcontinental	2-Ross	Varela	–2890	Dry
Transcontinental	9-Rosson	Varela	T.D.2846	Dry

Milam County

Alexander et al	1-Battle	Lewis	T.D.3137	Dry

Montague County

Arc	3-Rowland	Chambliss	T.D.1200	Dry
F H & E	1-Maddox	Chambliss	2115–T.D.	50
Haskell et al	2-Rolls	Chambliss	818– 820	90
Pure	10-Maddox	Chambliss	881– 953	40
Texas	29-Rowland	Chambliss	1061–1082	40
Texhoma	5-Bouldin	Chambliss	1062–1099	106
Texhoma	2-Howard	Chambliss	1233–1374	80
Texhoma	3-Maddox	Thompson	868– 892	100
Texhoma	13-Rowland	Chambliss	1101–1112	35
Texas	24-Gist	Donoho	881– 897	80

Navarro County

Garland-Kent	2-Woolens	Mathews	T.D. 800	Dry

Palo Pinto County

Goodwin et al	1-Guest	Burleson	T.D.3385	Dry

Reagan County

Big Lake	92-Univ.	Univ.	2907–2940	165
Texon	49-Univ.	Univ.	T.D.2000	106
Texon	5-Univ.	Univ.	2860–2885	100

Shackelford County

Humble	9-Cooke	ET	1355–1370	200
Rosier-Pendleton	11-Cooke	ET	1125–1131	25
Rosier-Pendleton	32-Cooke	ET	1325–1340	130
Rosier-Pendleton	17-Cooke	ET	1287–1292	100
Tannehill	1-Moberly	ET	1127–1135	700
Southern	1-Dyer	TP	T.D. 938	12
Grogan	1-Nail	ET	T.D. 715	Dry
Hughes	1-Diller	Ahrenbecker	T.D.1531	Dry
Robert	1-Mathews	ET	T.D.1530	Dry
Rosier-Pendleton	1-Cook	ET	T.D.2001	Dry
Rosier-Pendleton	9-Cook	ET	T.D.1228	Dry
Rosier-Pendleton	10-Cook	ET	T.D.1210	Dry
Marland	1-Mathews	ET	T.D.1330	Dry
Hail-Knight	1-Reynolds	TP	T.D.1544	Dry

Stephens County

Tex-Pac	5-Garndeshire	TP	1550–1559	4½M
Humble	6-Hart	TEL	2065–3281	1M
Swensondale	32-Swenson	BAL	T.D.3400	5

Upton County

Humble	3-Burleson	Jones	2158–2185	105
Marland	25-Burleson	Jones	2135–2145	75
Marland	26-Burleson	Jones	2128–2165	40
Marland	28-Burleson	Jones	2139–2224	60
Marland	29-Burleson	Jones	2128–2175	100
Marland	23-Burleson	Jones	2135–2167	270

Wilbarger County

Phillips	6-Waggoner	H&TC	2394–2413	180
Humble	12-Waggoner	H&TC	T.D.1936	35
Humble	11-Waggoner	H&TC	2370–2387	30
Humble	2-Waggoner	H&TC	T.D. 600	Dry
Milham	4-Waggoner	H&TC	T.D.2825	Dry

Young County

Pitzer-West	5-Burgess	Smith	T.D.2225	Dry
Navarro	2-Dunnigan	TEL	1024–1079	5
Long et al	5-McCogren	TEL	T.D. 955	Dry
Lucas-Nance	1-Boozer	Garrett	2160–2190	125

Completions in North Louisiana and Arkansas, Week Ending Oct. 23

LOUISIANA

Urania

Company	Well	Location	Depth	Yield
Allen et al	Allen No. 2	23–10–1E	1513	150
Nat. Gas & Fuel Corp.	F. Tullos No. 5	26–10–1E	1500	35
Nat. Gas & Fuel Corp.	Urania M-7	20–10–2E	1575	800
O. F. Whittaker	King No. 6	36–10–1E	1520	80

Urania—Little Creek

Louisiana Oil Ref. Corp.	Tremont C-7	2– 9–1E	1503	250

Caddo Parish—Caddo District

Gulf Refining Co.	Ferry Lake No. 257	29–20–16	2300	15
Magnolia Pet. Co.	Wemple No. 1	14–20–15	2210	700
Radio Oil Co.	Leonard No. 3	31–21–15	1505	35

Bossier Parish—Bellevue

Autrey Oil Co.	Elston No. 15	10–19–11	460	20

ARKANSAS

Stephens

Magnolia Pet. Co.	Maggie Watson No. 6	31–15–19	2200	15

Union County—Hillsboro District

Company	Well	Location	Depth	Yield
Nat. Gas & Fuel Corp.	Cordell No. 1	9–18–13	3095	Dry
Thorpe et al	Peck No. 1	22–18–13	2091	Dry

Lisbon

Humble O. & R. Co.	G. H. Goodwin No. 3	20–17–16	2155	20
Lion O. & R. Co.	Mitchell A-17	17–17–16	2096	1m. gas
Magnolia Pet. Co.	Hulsey No. 6	20–17–16	2165	15
Magnolia Pet. Co.	A. E. Slaughter No. 3	17–17–16	2138	3m. gas
Southern Oil Purch. Co.	Slaughter B-6	3–17–16	2130	20
Unity Pet. Co.	Sydnor No. 4	21–17–16	2135	25

Smackover

Gulf Refining Co.	Umstead A-28	33–15–15	2366	150
Gulf Refining Co.	Hardy Murphy No. 43	4–16–15	2360	125
Meek, Trustee	Clauson No. 3	35–15–17	2298	30
Dyer Brothers	Stout Lbr. Co. No. 5	31–15–16	2250	20
Nat. Gas & Fuel Corp.	Lawton E-7	10–16–15	2470	75
Pure Oil Co.	Bilyew No. 7	8–16–15	2298	65
Southern Oil Purch. Co.	Wells A-5	15–16–15	2590	80
Standard Oil Co.of La.	Hardy-Murphy No. 37	9–16–15	2393	350
Standard Oil Co.of La.	McClannahan No. 11	6–16–15	2575	4m. gas
Texas Oil Co.	C. L. Saxon No. 4	4–16–16	2253	50
Standard Oil of La.	J. M. Reynolds No. 4	6–18–15	2182	30

"The one track narrow gauge"

cracking process limited to light distillates for charging stock may carry a part of the load, but only until the pace becomes swift, as it surely will

"The four track standard gauge"

Dubbs Process can always carry the full load straight through to destination without reloading or stop

The four tracks are:

(1) Gas oil
(2) Fuel oil
(3) Topped crude oil
(4) Crude oil direct

Run on whichever is available and cheapest

Universal Oil Products Company
Owners of the Dubbs Process
310 South Michigan Ave
Chicago, Illinois

McElroy Ranch Wells Promise Field Comparable with Big Lake

By Paul Wagner
N. P. N. Staff Writer

HOUSTON, Oct. 23

CURRENT developments in the Permian salt basin of west Texas indicate that another oil field has been found which may prove comparable with the Big Lake pool of southwestern Reagan county.

The area now showing for important production is located along the Crane-Upton county boundary, north of the broadly termed Hurdle district and on the McElroy ranch.

That part of the McElroy ranch which is now showing for large production is inside the Gulf Production Co's. 27-section block and it is held almost entirely by the Gulf.

William H. (Bill) Dunning, drilling contractor, of Fort Worth, who originally assembled the acreage in the Gulf block, reserved a 160-acre leasehold out of sec. 198 on which he completed his first well, October 22, making 40 barrels an hour at 2780 feet.

Dunning also retained two tracts of 160 acres each 1½ miles east and 1½ miles northeast of the lease on which he has just completed a well. Northwest of production less than two miles Dunning retained a full section, No. 216, and southwest of production about the same distance he kept a full section, No. 212.

Block Otherwise Solid

WITH the aforementioned exceptions, the Gulf's 27-section block is solidly held, permitting development to be carried forward under controlled conditions somewhat similar to the leisurely drilling up of the Big Lake field by the Big Lake Oil Co., and the Texon-Group 1 Oil Corp. interests.

The McElroy pool, which was discovered July 21, 1926, when the Gulf completed its No. 1 test for about 600 barrels daily at 2750 feet, now has five producing wells to its credit. Three of these are completions made in the current week, one of them the Dunning well in sec. 198 and two finished by the Gulf Production Co. The Gulf's new wells are its No. 1 Crier-McElroy, which started off at 1000 barrels, initial production, at approximately 2740 feet, and its No. 2 Crier-McElroy, good for 500 barrels daily at 2820 feet.

Earlier Gulf completions on the McElroy, Nos. 1 and 3, are now producing 565 and 300 barrels daily, respectively. Altogether the four wells of the Gulf in the McElroy pool are making roundly 2365 barrels daily.

Pay Below Sea-Level

The pay level of the McElroy wells is found in lime formation about 105 feet below sea-level as compared with production roughly 200 feet below sea-level in Big Lake wells.

With the exception of the Church & Fields (University land) pool in Crane county, about six miles northwest of McElroy ranch development, all other fields in the west Texas Permian salt basin have produced at above-sea-level depths. The pools mentioned include the Hurdle district development area, about 12 miles south and southeast of the McElroy; the World pool, in northern Crockett county, 16 miles south of the Big Lake field, and other prospects where oil showings have been found but fields have not been developed.

As pointed out in this periodical on page 142 of the May 19, 1926, issue, Hurdle district oil comes from approximately 500 feet above sea-level; World pool production is found at about 200 feet above sea-level; and the showings found in the Todd ranch test of Cook et al, in Crockett county, were at approximately 700 and 900 feet above sea-level. The Cook et al test and surrounding acreage was sold to The Texas Co., which has not proceeded with further development.

Theory of Accumulation

THE important production now showing up in the McElroy pool confirms in part the theory expressed by Dr. W. A. J. M. van Waterschoot van der Gracht, director of the Marland companies, before the American Association of Petroleum Geologists at Dallas, last February. Dr. van der Gracht's theory was first given publicity on page 81 of the April 7, 1926, issue of this periodical and reiterated in subsequent issues.

Dr. van der Gracht took the position that waters in the old Permian sea, or basin, had varying degrees of salinity from time to time because of the progress and recession again and again of brine pasing over an old barrier reef extending from the Guadalupe Mountains on the northwest to the Glass Mountains on the southeast.

Quantities of surface life technically known as water algae were affected according to Dr. van der Gracht's theory, by the concentrated solution in the sea to the end that they underwent a pickling process in dropping to the bottom ooze of the basin. It was maintained that such a process provided a source for oil at or near the base of the chemically deposited beds found in the area, these beds including gypsum, anhydrite and common salt.

Only structural disturbance or some unmeasured chemical change remained necessary to effect liberation of the hydrocarbons and bring about the collection of petroleum in underground pools. Dr. van der Gracht's theory favored "blisters" or "highs" out in the basin at below-sea-level depths for such collecting places as distinguished from structural "highs" around the rim of the basin at above-sea-level depths.

Winkler-Ector County Shows

TESTS of Westbrook et al on the Hendricks tract, in Winkler county, and J. S. Cosden et al on the Connell ranch, sec. 13, Block B-16, Ector county, have both made oil showings at below-sea-level depths out in the old salt basin, but neither has been finally completed as a commercial well.

The Cosden test at total depth of 3498 feet, surface elevation 2847 feet, had an oil pay 3465 feet which made a "head" of 34.5 A. P. I. gravity oil about two weeks ago. The Westbrook et al well at total depth of 2831 feet is making 750,000 cubic feet of gas after deepening slightly from the level where it has showed for 15 to 20 barrels of oil daily for some time past.

Gulf Storing Crude

EXCEPT for about 250 to 300 barrels daily production being sold to the Humble Oil & Refining Co., the Gulf's McElroy oil is being run to field storage. The Gulf now has one 80,000 barrel steel storage tank completed and another of similar size under construction.

Production in the Hurdle district proper, about 12 miles south of the McElroy development, now totals roundly 11,000 to 12,000 barrels daily, fluctuating somewhat from week to week. The Humble and the Kay County Gas Co. (Marland have been the only crude purchasing agencies in the district, but now the Southern Pipeline Co., which is affiliated with the Dixie Oil Co., Inc., and the Standard Oil Co. of Indiana, has made its Hurdle district entry.

Besides running the Dixie's oil through field connections to tank car loading racks the Southern will make purchases from other producers. It has already contracted with the Independent Oil & Gas Co. for 200,000 barrels of Hurdle crude at a minimum of $1 a barrel, or the average posted price in the district if the market changes. Crude bought by the Southern will be shipped to the Destrehan, La., plant of the Mexican Petroleum Corp.

-but there was no need to worry about the tanks---

Fire has danced and played all around Oceco Equipped tanks and never once has it gotten through an Oceco Flame Arrestor. Build gas-tight tankage and equip with Oceco—that eliminates worry and disaster.

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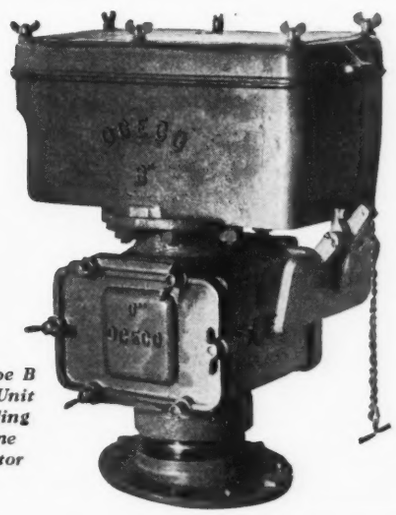

6" Type B Vent Unit including Flame Arrestor

These tanks are Oceco Equipped

S. O. New York Cuts Accidents a Fourth

By R. H. Farrell
Standard Oil Co of New York, Buffalo Marketing Division
Read Before Petroleum Section, National Safety Council, at Detroit

A MARKETER'S safety problem is not the sole one of operating motor equipment on traffic congested highways. It includes literally dozens of unrelated problems, among which the hazards connected with gauging tanks, slippery ladders and loading platforms, handling underground tanks and curb pumps, loading and placing of heavy barrels and drums of oil and the numerous details connected with tank and pump installation and repair work, the digging of holes, chipping concrete, and the supervision of men at many different stations stand out prominently.

Years ago before the advent of the motor tank wagon and motor truck, deliveries were made by horse drawn equipment, which was a slow-moving way of delivering. Almost our greatest hazard was the runaway horse or runaway team but today an entirely different traffic situation confronts the marketer and he has to solve it as best he may.

Horse drawn equipment has been replaced with fast-moving equipment fully two to five times larger than the old equipment. With this change we had the problem of converting the old tank wagon driver into a chauffeur for motor equipment. This man was one who had been used to a team controlled by the whip and reins. He was a man who, when placed on this new equipment, jumped from a walk to a run and was placed on the streets and highways with fast passenger cars and trucks. Of course, accidents began to happen and with these accidents the thought of preventing them came to mind.

Our company always endeavored to procure careful drivers and to train them to exercise the highest degree of care in operating with a fair degree of success.

However, early in 1925, we decided to institute an intensive campaign for the better education of drivers and helpers in safety work and to see what results, if any, would be shown in cutting down the nmber of accidents and what reaction would come from the men.

In one department a plan of holding meetings was started. At the first meeting the man in charge of handling the accident work talked on courtesy on the highway, rules and regulations pertaining to motor vehicles and, in general, on accident prevention. We continued these meetings, holding them once a month on the same day, if possible. At first there was little reaction. The explanation seemed to be that we had to contend with the type of man who felt that accidents were a part of the day's work. It was soon apparent that it would be necessary to go into the matter of education with hammer and tongs in order to prevent these accidents, so we kept pounding away with our educational activities. These meetings were continued and we arranged to have outside speakers talk to our men.

Bulletins Used by Standard Oil Co. of N. Y. Prom

Obey the Golden Rule in Traffic

If all drivers did unto others as they would have other drivers do unto them, there would be mighty few accidents. Let's obey the Golden Rule in traffic and cut down accidents.

Don't dispute right of way.
Be courteous.
Keep well to the right side of road.
Sound your horn.
Let the other fellow know what you are going to do.

Horseplay at Socony Service Stations

In FOOTBALL terms, the Horseplay is an Off Play at Socony Service Stations.

In Safety terms, Kidding, Fooling, Wrestling, Ar and any other form of Horseplay easy for Service St men to indulge in during time temporarily disengagd result in a serious injury.

In JOB terms, Horseplay will not be tolerate Socony Service Stations.

Oily Rags

Oily rags on trucks are a great source of danger and have no place there.

Let's get rid of them and put them in proper receptacles.

Attention

Eyes front.
Hands on steering wheel.
Feet near brakes.
Brakes working.
Single file.
Think.
Watch crossings carefully.
Cross crossings carefully.
Boost safety.
Help make Socony spell
S A F E T Y

Traffic Twins

Safety and Courtesy have called the Traffic Twins.

Socony—Safety—Success

Common Sense Safety is the First Rule of S U C C E S S.

What Price Safety?

The Price of Safety is only
THOUGHT.
Thought—Socony Safety.
Think it over----------Act o

For Your Safety

For your safety report any defects, anything wrong with your truck or equipment which might be dangerous and which might cause an accident.

How are your brakes and steering gear?
Don't imagine defects, but if there are any—
Report them.

H o r s e p l a y

Horseplay is all right in its place, but that place is anywhere around the Socony Plant. Sooner or later so one will lose his temper, and a bad accident may caused in a moment of anger. So let's cut out the ho play.

In the Buffalo district we invited the district deputy of the New York State Motor Vehicle Bureau to talk to our men. He gave a very good and profitable talk, explaining new laws and regulations, particularly explaining the ruling of New York State, wherein a driver could lose his license for careless driving and if the license were revoked, the driver would not be permitted to drive for one year. This one point caused our men to pay strict attention, and we noticed that they took more interest after this meeting. In our Rochester territory we secured the services of the city chief of traffic, who talked on violations. In another we had the services of the Director of Safety from the Chamber of Commerce, etc.

The men began to take an interest in these special talks for they soon realized that these meetings were to assist them in the day's work and to benefit the company. The feature which seemed to have the most effect on them was the reading of the reports of the accidents that had happened since the last meeting and the explaining of ways and means on how these accidents might possibly have been minimized.

Post Record of Accidents

WE next began a plan of posting a chart in a conspicuous place to show the record of accidents happening on the road for a six-months' period. This chart carried the names of all drivers in the vertical column. In the horizontal column after each driver's name, we blocked off each week with the date through a six months' period. In the horizontal column after the driver's name, we entered a zero for a slight accident and an X for a serious accident. This aroused great interest and seemed to have the effect of cutting down the number of accidents. Drivers, being human, did not care to see a mark after their names. Quite a bit of talk went on among the men who had no accidents and this talk had a good influence upon the man who was inclined to be careless.

During the latter part of 1925, we realized that in order to reduce accidents materially and to lower our curve, it was necessary to introduce the spirit of competition. Several plans were advanced, such as medals for drivers not having accidents, cash bonuses, etc. However, we finally adopted the plan of dividing our drivers and helpers into teams. We had 104 men at our largest delivery station and we divided them into two teams, going over the list of names carefully so as to balance up as nearly as possible the drivers who apparently seldom had accidents with those who were less fortunate. We then held a meeting and informed the men of our plan. It was decided that a record should be kept of every accident and the team having an accident should be charged with one point.

Contest Lasts Eight Months

THE contest extended eight months and at each monthly meeting we told the men which team was leading. We did not tell them the number of accidents which separated them. The contest included slippery winter driving and summer driving. Much enthusiasm was shown at these meetings, some men going so far as to call down a driver who had an accident and caused a mark to go against their team. I recall one day overhearing a driver telling another that he was "tickled pink" because John Jones was not on his team. It seems that John Jones was unfortunate enough to have had two accidents in one month and he came in for a great deal of razzing.

During the contest a close check was kept with the warehouse superintendent so as to remove the names of men who had resigned and to add the names of new men employed. They kept our teams well balanced. At the end of eight months we held a meeting at which the men were told that the contest was over and that at the next regular meeting we would announce the winning team and that it was decided the winning team would receive as a reward an eve-

Y. Promoting Safety in Its Buffalo Marketing District

Look Before You Leap

Are you careful when getting on and off your truck? Do you look to see whether it is icy or slippery where you are going to step?
A look and a little caution may save a fall and several days' layoff.

Quick Thinking

Quick Thinking and Quick Action will often avoid an accident.
Do you use your hand brake?
REMEMBER—Most accidents can be avoided in some manner.
Be Prepared for Emergencies.

Get The Habit

Get the habit of sticking your hand out and of giving warning to the fellow in back when you are going to stop suddenly.
Get the habit of not following a car too closely that if it stops suddenly you will strike it.

Save The Kiddies

Schools are in session again.
Streets near schools are full of children at several times during the day.
Remember that you never can tell what a child will do so
Drive Slow in School Zones.
Be Prepared to Stop.
Don't Take Any Chances.
Let's make Socony spell Safety.

It Is Your Duty

To Protect Yourself
To Protect Your Family
To Protect Other People
To Protect Your Truck
To Protect Your Company
BY BOOSTING SAFETY

Carefulness

Carefulness costs you nothing.
Carefulness avoids accidents.
Carefulness avoids spending time in court and in argument.
Carefulness sends you home safe and sound after the day's work.
Carefulness is associated with Socony employes, and Carefulness should be practiced by each and every Socony employe.

Don't Be A Jay Driver

Stay on the right side of the road.
Don't slam through intersections.
Keep your mind on your driving.
Don't cut in and out of traffic all the time.
Don't turn corners without giving warning.
Use your head and your horn and your brakes.
Look before you back up to see that no one is coming or is parked.

You Can Buy Safety! How?

By Always Being Careful.
By Not Taking Chances.
By Thinking.
By Infinite Precaution.

Use Your Head

If you know a street is very slippery and that you may skid and have an accident, USE YOUR HEAD. Take another street nearby. Always figure how far it will take you to STOP—SAFELY.

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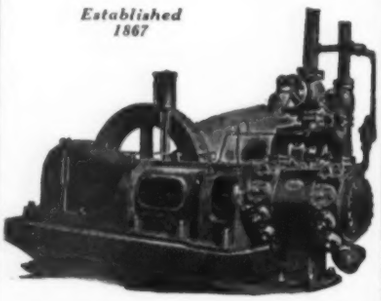
Established 1867



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An "emulsion" represents a condition of a liquid which can be fully, scientifically and economically corrected by use of the chemial process. Use TRET-O-LITE process when you have cut oil and tank bottoms that require treating.

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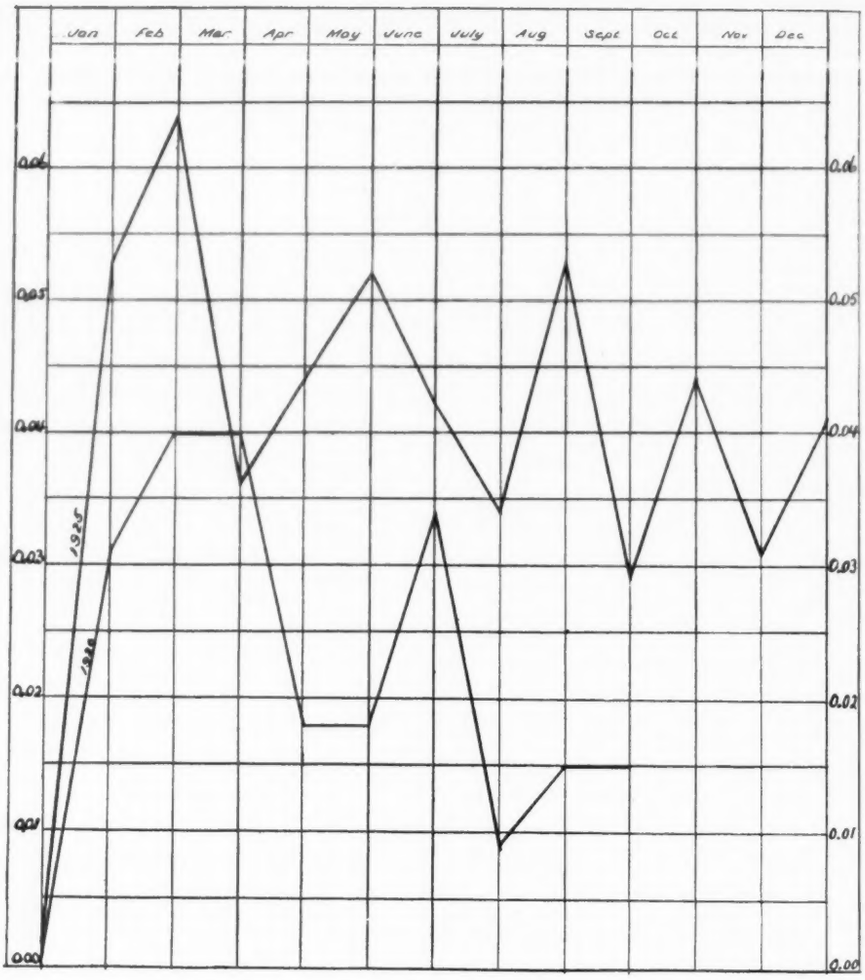


Curves show lower rate of vehicle accidents of Standard Oil Co. of New York in its Buffalo marketing department following safety campaign. The rise in the curve in June, 1926, took into account three personal injury accidents, the first the company had in a year in the Buffalo distict. A special appeal was made in a safety bulletin to make July offset the June rise. The curve indicates the appeal was effective.

ning out to take in a show and a supper afterwards which would be held at the expense of the company. There was a great deal of speculation during the ninth month as to which team would be the winner.

Our announcement of the winning team was met with great applause. We found that team No. 2 had won the contest with a record of 28 accidents charged against it for the eight-months' period. Team No. 1 had 40 accidents. The expense of this party was approximately $2 a man and we feel that we have been repaid many, many times.

Incidentally, for the first eight months of 1926 we have a total of 37 accidents. The interest aroused from this contest continued and we kept on holding our regular meetings.

Drivers Take Safety Course

LAST spring we received an invitation from the Buffalo Chamber of Commerce for our drivers to attend a safety course for truck and taxicab drivers to be held every Thursday evening. The invitation was posted on our bulletin board and approximately 70 per cent of our drivers at our Buffalo station signed up and attended these meetings.

Similar series of meetings were held under the auspices of the Rochester Chamber of Commerce and while these meetings were being held a notice was run in the Rochester papers that the Standard Oil Co. of New York had the honor of having the greatest number of men attending this lecture course.

The latter part of 1925 we decided to send a bulletin to each tank wagon station in our field once every week, which was to carry a short paragraph pertaining to safety. Pointers given to our drivers were such as carefulness in driving, attention to driving, duty of the men to the Company and obedience to traffice laws, etc. These bulletins are sent out every Saturday morning from our safety department so that they reach the stations Monday morning. Each station posts the bulletin on the bulletin board where every man will see it.

The system has reached a point now where the stations look forward to the bulletin's coming in on Monday mornings, and we believe this little piece of work helps us considerably in keeping down the number of accidents. At some of our stations when these bulletins are received, the man in charge of the station gets his men together and they discuss the thought carried.

A special bulletin was prepared and sent out to all stations calling attention to the particular hazards of winter driv-

ing and urging that winter accidents be minimized as far as possible. The reaction to this bulletin was far reaching, not only in our own organization, but even finding expression in the editorial column of the Olean Evening Times.

Our experience in safety work leads us to the firm conclusion that the secret of arousing and sustaining interest in safety work is to keep the safety idea everlastingly before the men in one form or another and often by combination methods. The particular brand of safety we endeavor to sell our man is the common sense variety and not the visionary.

Sell Safety to Men

WE called our men together the first of January to announce to the drivers, helpers, warehousemen and repairmen that the big idea for 1926 would be safety. We have been fortunate in selling this idea and our men are carrying it out in first-rate style. Consequently at the beginning of 1926 we adopted the slogan, "Let's Make Socony Spell Safety."

We realized the importance of safety work and its extent and we wanted to organize it completely. Accordingly on April 1, 1925, we formed in our Buffalo territory what we term our general safety committee to handle matters pertaining to safety in our warehouse and repair shop. This committee was appointed by the management. The committee in turn selected a subcommittee to function with it.

Reported suggestions were promptly looked into by the general committee and if found to be as reported, the chairman of the general committee notified the management, who immediately made changes recommended. Several reported unsafe practices were investigated and when found unsatisfactory were immediately rectified, which action gave the men the satisfaction that cases brought to the general committee's attention were not forgotten but were given consideration and rectified if warranted.

We held a general meeting with all our men and told them of our interest in their safety. First-aid kits were placed at many points throughout the shops and warehouses, and we generally kept the idea of safety before our men in all possible ways. We also procured first-aid booklets and distributed them throughout our territory. We held meetings with our foremen and put the responsibility clearly up to them. After a foreman was made to feel that we held him personally responsible for an accident, a noticeable decrease in lost time accidents was noted.

Use Safety Bulletins

OUR safety department obtained posters from the National Safety Council which we are continually using. These service bulletins were placed on large bulletin boards near the principal entrance to our station in clear view of employes. It is surprising to note the interest and the study the men make of these bulletins.

Proceeding from the warehouse and repair shop to the service stations, owned and operated by the marketer, let us consider the marketer's newest safety problem. We find that we have to contend with a comparatively younger group of employes who have not had the training of years in discipline, who generally come to us with the "take a chance" spirit. The danger of being burned or scalded when filling radiators of customers' cars, the inflation of old or worn tires and smoking around a station present the chief hazards. Horseplay in one form or another seems to be easy for the men to indulge in during moments while temporarily disengaged.

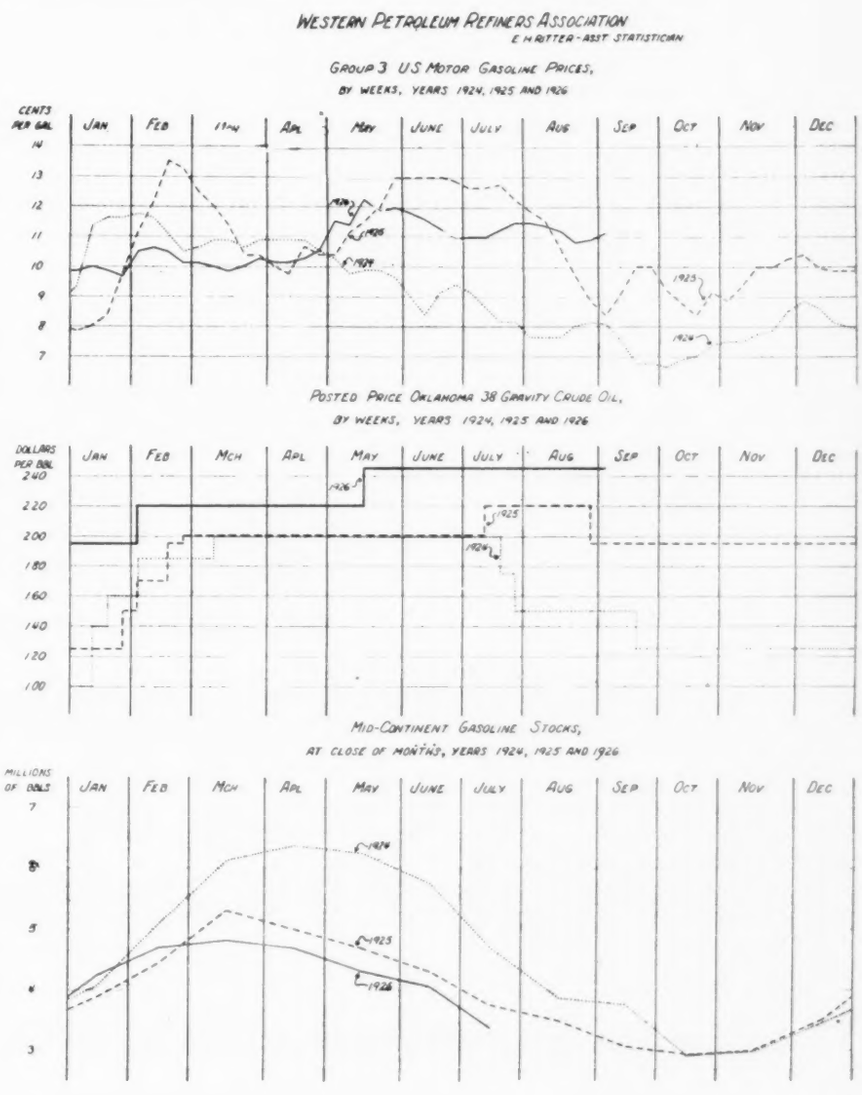
When a new man is employed as a service station salesman he is told of these special hazards and cautioned to use the utmost care to avoid accidents. We also hold our man in charge personally responsible for the behavior of men at our stations. We make use of our bulletin system by sending special ones to service stations which are pertinent to some particular phase of service station safety.

The outstanding accomplishments in our efforts to reduce compensation accidents have been that we have not had a single lost time accident in our Buffalo auto repair shop for nine months. Many potential lost time accidents have been averted by the desire of the men to avoid spoiling their particular department's record and also by the constant supervision of the superintendent and foreman.

Our compensation figures show that we have reduced our lost time hours fully 25 per cent in 1926 in our Buffalo field over 1925. The success of our efforts to reduce vehicle accidents is best portrayed by the accompanying graph. We are proud to point out that our frequency rate is consistently lower in 1926 and that we have both "letterly" and figuratively made Socony spell safety.

Gasoline and Crude Prices Compared

The chart below was compiled by E. H. Ritter, assistant statistician of the Western Petroleum Refiners Association and put out by the association. It shows the relation between the price of gasoline F. O. B. Group 3, the posted price of Oklahoma 38 gravity crude at the well and stocks of gasoline on hand at Mid-Continent refineries by weeks for 1924, 1925 and 1926.


WESTERN PETROLEUM REFINERS ASSOCIATION
E. H. RITTER - ASST. STATISTICIAN
GROUP 3 U.S. MOTOR GASOLINE PRICES, BY WEEKS, YEARS 1924, 1925 AND 1926
CENTS PER GAL.
JAN FEB MCH APL MAY JUNE JULY AUG SEP OCT NOV DEC
14 13 12 11 10 9 8 7
1926 1925 1924
POSTED PRICE OKLAHOMA 38 GRAVITY CRUDE OIL, BY WEEKS, YEARS 1924, 1925 AND 1926
DOLLARS PER BBL.
JAN FEB MCH APL MAY JUNE JULY AUG SEP OCT NOV DEC
240 220 200 180 160 140 120 100
1926 1925 1924
MID-CONTINENT GASOLINE STOCKS, AT CLOSE OF MONTHS, YEARS 1924, 1925 AND 1926
MILLIONS OF BBLS.
JAN FEB MCH APL MAY JUNE JULY AUG SEP OCT NOV DEC
7 6 5 4 3
1924 1925 1926

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BID goodbye to Ford "chatter." Away with gummy, "lardy" crankcase walls.

Forget about pitted, rusted cylinder walls, the result of excessive amounts of oleic acid.

GRUMEOL cures all these Ford "ailments"—it is the effective but harmless ingredient used in TAGOLENE Oils to smooth out the "chatter"—to lubricate correctly both the bands and the bearings.

What an excellent selling argument this is for the jobber to present to his Ford-owner customers!

SKELLY

TAGOLENE

MADE BY THE REFINERS

The result of years of study and trial—GRUMEOL

These convincing points win the Ford owner to a test use of Tagolene Ford Oil—and after he has used this product once, you won't need to sell him again. Results will tell—he will come back again and again.

Sells easily the first time—repeats again and again—those are the reasons more and more jobbers are taking on Tagolene Ford Oil and the entire Tagolene line. Write, wire or phone for complete information.

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First

Transfer gasoline from the gas, its natural carrying medium, to absorption oil, a medium from which it can more readily be isolated.

Campbell oil froth absorbers effect this transfer efficiently and thoroughly.

Second

Separate the gasoline thus absorbed from the oil so that this "carrier" may go back to the absorber "empty" for another load.

Campbell oil froth strippers effect this separation with a low agitation ratio and their reflex fractionating section cuts the load on the dephlegmator surprisingly.

One of these strippers in conjunction with a pipe coil Dephlegmator, about which we will be glad to tell you, makes a combination that for steady production and point and color control, cannot be excelled in the opinion of many operators who are now using them.

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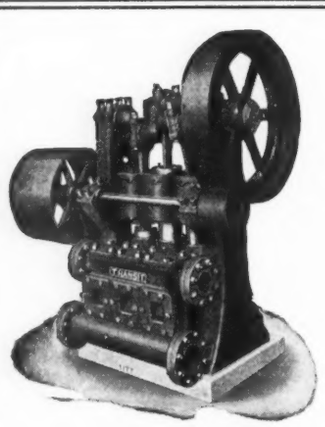
OIL FROTH
absorber



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Crude Stocks Decline In September

NEW YORK, Oct. 25.—Continued draft on crude stocks is shown in the American Petroleum Institute's preliminary report covering September operations in the oil industry. Pipe line and tank farm gross domestic stocks east of the Rocky Mountains decreased 1,959,000 barrels in September, as compared with a decrease of 194,000 barrels in August.

Refinery stocks of all products increased 477,000 barrels in September, as compared with a decrease of 767,000 barrels in August, the report covering 80 per cent of the country's operating capacity east of California.

Gasoline stocks decreased 382,000 barrels, compared with a decrease of 2,359,000 barrels in August. Kerosene stocks decreased 115,000 barrels and lubricating oil stocks, 69,000 barrels. Gas and fuel oil stocks increased 516,000 barrels. Domestic crude stocks increased 1,854,000 barrels.

New Huntington Beach Boom Nears Peak

Staff Special—by Telegraph

LOS ANGELES, Oct. 25.—Daily average production of the Huntington Beach field, including the town lot area now under development, for the week ended Oct. 23 was 55,000 barrels. This is 3000 barrels gain over the preceding week. Six new wells gave an average of slightly less than 1000 barrels flush.

There are 84 actively drilling wells in the new town lot area with 41 rigs which will be drillers within a week. It is indicated that the peak in the new area will be reached by Nov. 15 and that the decline will be rapid in several weeks following.

Prominent Engineer Dies

CLEVELAND, Oct. 25.—John J. McConnell, chief engineer in charge of all construction work for the Louisiana Oil Refining Corp., Shreveport, La., died Sept. 13. He joined the company in March, 1924, as engineer of the pipe line department and in the latter part of the year was appointed to the position he held at the time of his death.

Just prior to his death, he had returned from the East where he had been making preparations for a sales program for the McConnell auto lift, a hydro-pneumatic automobile lifting device, which he invented.

Surviving Mr. McConnell are his wife, Katherine Herron McConnell, his mother, brother and step-brother.

He was a member of the Masonic Lodge, Mithra Grotto, Shreveport Officers' Club, American Electro Chemical Society and an associate member of the American Institute of Electrical Engineers.

Mid-Continent Oil Men Keep Up Fight Against Tax Bill

TULSA, Oct. 16

OIL companies operating in Oklahoma have made a more vigorous campaign against the proposed tax bill which will come up at the November election than they have against many another measure in the past.

The bill to be voted on is known as State Question 138, Initiative Bill 89, and is a measure purporting to increase the gross production oil tax for the benefit of the ad valorem tax payer. Its chief backer is Campbell Russell, veteran politician of Oklahoma, formerly a member of the state corporation commission and at times holder of other state jobs. He refers to his efforts as being on behalf of the "State Taxpayers' Association." It is said that some money for his campaign has been supplied by a few large landowners and by some cotton growers and brokers.

"It is generally realized that this is a real test," said Harry H. Smith, secretary of the Mid-Continent Oil & Gas Association. "It is not a purely local issue. If the bill is defeated, the oil industry will realize generally that it can defend itself against the efforts of politicians all over the country to single out oil and make it bear a burden out of all proportion to that carried by other industries.

"The oil industry usually has submitted. It should have started to fight a long time ago. It has to fight now or its course will be made more and more difficult. There is no stopping place with the politicians. Each time they win they begin planning a further shifting of the tax load to the oil industry."

So thoroughly aroused have the companies operating in Oklahoma become to the injustice of the bill and the confusion to which it will lead that they have made an appeal direct to the voters. Each company stands in some intimate relationship to a number of voters. These may be employes, lessors, customers.

A committee of the Mid-Continent association has worked hard at preparing arguments for the defeat of the tax bill —arguments showing the effects that the bill would have if enacted into law. This committee consists of Judge John H. Kane, Phillips Petroleum Co.; J. C. Cleary, Marland Oil Co.; Wirt Franklin, Ardmore, Okla.; W. E. Wood, Kingwood Oil Co.; W. C. Franklin, Tidal Oil Co.; Frank Buttram, Buttram Petroleum Corp.; J. H. Hill, The Texas Co.; John Carlock, Ardmore; Frank Long, Sand Springs Home.

Uncertain Rate Plan

AMONG the objections raised by the oil men to the proposed law is the fact that it would certainly cause endless confusion. As it now is, the gross production tax on oil is 3 per cent of the value. The Russell proposal is to take the average ad valorem rate of all state taxing districts and make that the gross production rate on oil. The rate would be computed anew each year.

"Among the evil consequences of the adoption of the bill," says the "Handbook of Facts," which is being distributed to voters by the Mid-Continent association, would be:

"An increase in general property taxes, otherwise known as 'ad valorem taxes,' through an increase in the valuation upon which ad valorem tax rates are assessed.

"A slowing up of oil and mineral development by reason of the uncertainty as to the rate of taxation to be applied to oil and mineral production.

"Chaos and delay in the state revenue in place of the present smoothly functioning system by which we have a surplus in the treasury and no need whatever for increasing taxes."

As is well known, tax assessors in establishing the basis for ad valorem taxes always indulge in the pleasant fiction that the property is worth much less than the going market value. Under the present gross production tax in Oklahoma, oil pays on 100 per cent of its sale price. Farms, on the contrary, pay on about half their actual value. Here is what the oil men say about the "equalization" claimed by Russell as a virtue of his bill:

Would Change Valuations

"ASSUME that Bill 89 is adopted. Average ad valorem rate of all state taxing districts becomes the gross production rate on oil.

"But the constitution forbids assessing one class of property at 50 per cent of its value and another at 100. So when oil is thrown in the class with farms, homes and store stocks, valuations must be equalized.

"Either $5,000 worth of oil must be worth only $2,500 for taxing purposes, or the $5,000 farm assessed now at $2,500 must pay taxes, like oil, on $5,000 value.

"If valuations are thus equalized, it won't hurt oil either way ..... Who is hurt then? Who will pay more taxes? If you own the $5,000 farm, home or store stock, you can answer the question."

No claims of victory are being asserted by the oil men. They have made a strong fight, in which they have not been alone. About 370 newspapers in Oklahoma have taken a definite stand against the proposal, the Automobile Club of Oklahoma and other organizations have been active in the campaign. The united front against the measure will be maintained right up to election day.

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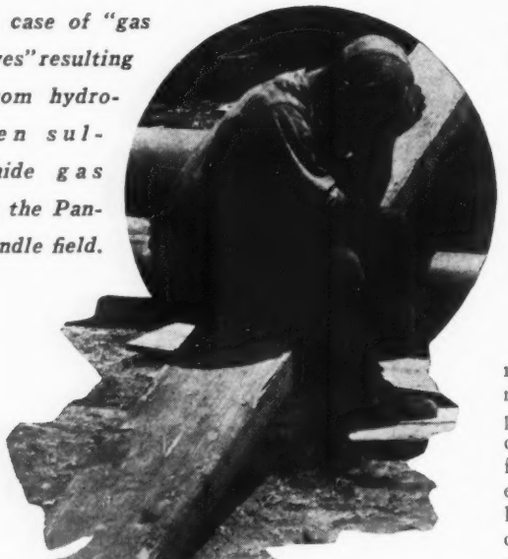


A case of "gas eyes" resulting from hydrogen sulphide gas in the Panhandle field.

Special Devices Lessen Danger of H_2S Poisoning Of Panhandle Drillers

IN the Panhandle district of Texas, in the Big Lake and in the McCamey fields in the same state, silver money turns black, white lead paint on buildings darkens, brass valves and fittings tarnish.

This in itself is not serious, but is an indication of the presence of hydrogen sulphide gas, probably the most dangerous gas to the life and health of field workers associated with oil.

Its presence in an oil field is not new to the industry, but the extent to which it has had to be reckoned with in the fields named above has made it a problem that oil company heads and Bureau of Mines engineers have given particular attention to.

A report dealing with this subject, Serial 2776, has been issued. Authors are W. P. Yant, associate chemist, and H. C. Fowler, petroleum engineer. Mr. Yant is from the Pittsburgh experiment station of the bureau and Mr. Fowler from the Bartlesville station.

The first part of their report is given to the symptoms that accompany cases of gas poisoning and their first aid treatment. The principal part of the report, however, is given over to precautions that the oil company can take to safeguard its men from dangers of the gas. Special equipment is described, which has been designed by the oil companies, to lessen the time of necessary exposure of the derrick crew to gas when fittings are being applied to the well head.

This part of the report follows:

Precautions

MANY cases of irritation are the result of carelessness, negligence, or lack of knowledge of the danger on the part of either the employee or the employer. Men often stand needlessly on the leeward side of the hole or in the stream line flow of the gas. Workmen should be instructed to avoid the gas whenever possible by working on the windward side of the outlet from which the gas is escaping. Under no condition should a man stand directly over a thief or gage hole on a tank. Three out of five reported deaths due to hydrogen sulphide gas in these fields, have occurred to gagers on top of tanks.

Protective Equipment

EMPLOYERS should furnish the following protective equipment and insist that men working in atmospheres containing hydrogen sulphide gas wear this equipment. The men should be instructed in the proper use of each type.

(1) For work in cellars, inside of tanks or other confined spaces, where high concentrations of hydrogen sulphide gas may occur, men should wear a hose mask equipped with a blower. Workmen should not enter these places without a safety belt and life line.

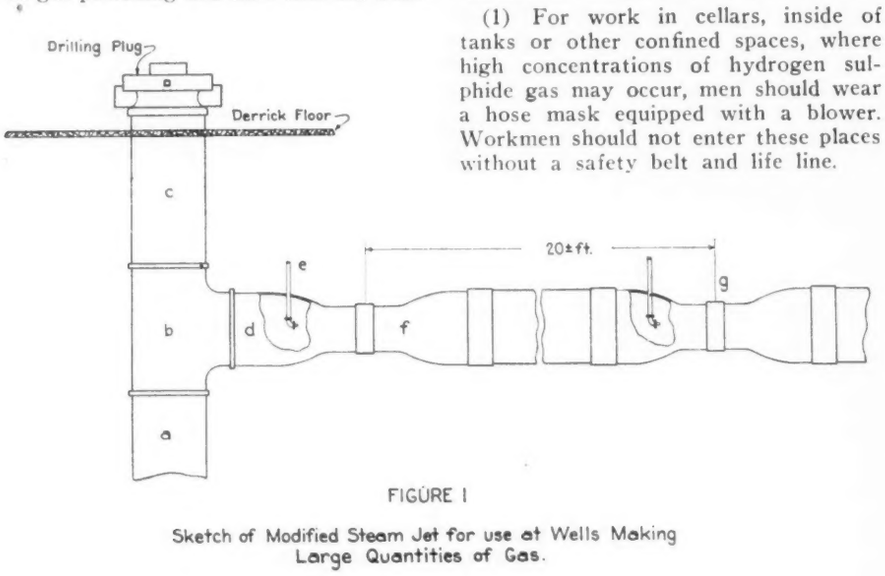


FIGURE 1

Sketch of Modified Steam Jet for use at Wells Making Large Quantities of Gas.

(2) For work on the derrick floor where concentrations of hydrogen sulphide are likely to occur, that will irritate the eyes, men should wear a gas-tight type of goggle. Goggles with water dams to overcome fogging of the lenses, and non-shattering glass are recommended.

(3) For gaging tanks and for other outside exposures including the derrick floor, where low concentrations of hydrogen sulphide gas exist that irritate the respiratory tract, suitable canister type masks should be worn.

Education in the limitations of the canister mask is essential. A canister mask is a filter, not a generator of oxygen, and is intended only for low concentrations of hydrogen sulphide.

Safety Limits

CANISTER masks should **never** be worn in cellars and other confined places where concentrations of hydrogen sulphide are as high as in these fields. The writers talked with one man in the Panhandle field who had been overcome by the gas in a cellar while wearing a canister mask. According to this man's statement, he had been in the cellar only a short time when the vapors broke through the filter. He was aware of this by the "taste" (odor), but before he could reach fresh air he fell unconscious (and injured his back in falling.)

Canisters should be used in accordance with the instructions of the manufacturers as they are in a position to know the contents of the container and the safe working time that is permissible before discarding it. The life of a canister is relatively short.

For gaging tanks, there is the objection to the canister mask that the wearer may feel himself immune from all danger and stand in the streamline flow of a highly toxic gas escaping from an opened vent or gage hole.

One company is meeting these difficulties and maintaining proper supervision of its breathing equipment by having a first-aid man in the field whose duty it is to take care of all breathing equipment and to be present at wells when the bradenhead is put on.

Objections to wearing hose masks on the grounds that they can not be used in the cellar when putting on the bradenhead are either due to lack of proper information or to biased opinion, as the writers observed this equipment in use at a number of wells. Men

who have worn hose masks claim that their movements are not greatly hindered by the hose and they appreciate the protection given by this breathing equipment.

Care should be taken that the blowers are sufficiently far enough away from gas so that the men will be sure to have an uncontaminated supply of air. As a matter of extra precaution, a man should be designated to watch each hose and safety line and to keep them from becoming tangled.

Protective Measures for the Derrick Floor

Use of the Steam Jet.—A number of companies operating in the Texas Panhandle have taken effective steps to keep harmful gas from accumulating on the derrick floor. Good results are obtained by the use of a steam jet connected to the casing.

Figure 1 shows a modified type of jet; (a) is the top of the 8¼-inch casing* which has been landed, or cemented, just above the gas zone; (b) is an 8¼-inch screwed tee; (c) the drilling nipple extending above the derrick floor, as convenient. A swaged or reducing nipple, (d) (8¼ by 6⅝-inch) is screwed directly into the side opening of the tee. A 1-inch nipple, (e) for steam connection, is welded into the side of the swage at its initial point of contraction and terminates near the centerline of the swage. The jet is reduced with proper fittings to a ⅜-inch opening. The efficiency of the jetting action will be greatly impaired if the steam impinges against the side of the pipe. Therefore the discharge of the jet should be concentric with the inside circumference of the exhaust pipe.

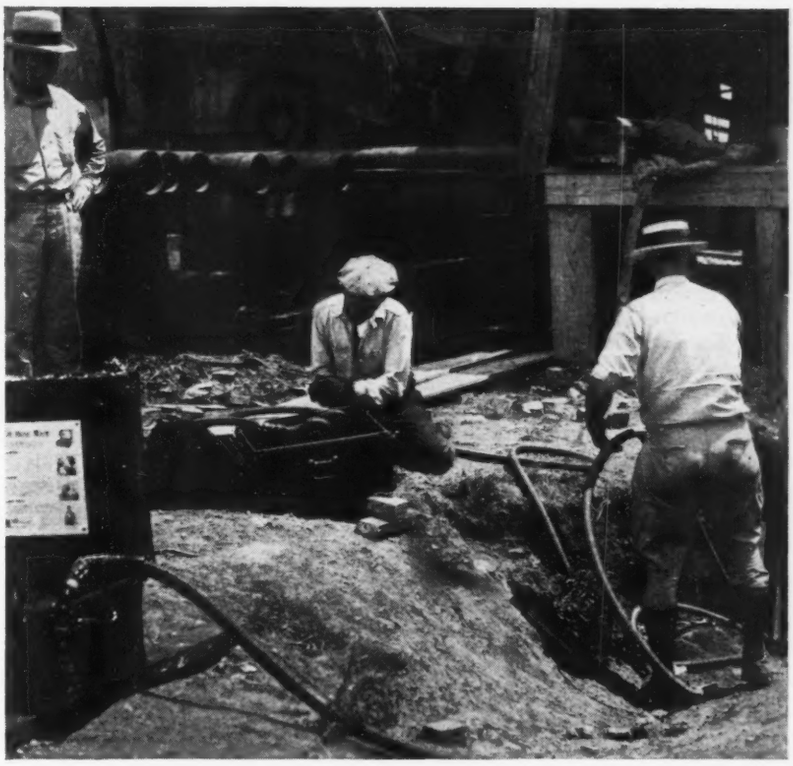
The exhaust will be more effective if the line is swaged back to 8¼-inch by using another 6⅝ by 8¼-inch swage, (f). This will allow the gas and steam to expand more rapidly after passing the constricted throat at high velocity, and the expelling effect will be increased. A similar jet may be placed in the line at a distance of 20 or more feet from the first as at (g) to further increase the expelling action. The exhaust line should be at least five joints in length so that the gas will not drift back on the workmen, and wherever possible, the outlet should be placed on the prevailing leeward side of the derrick. Elbows introduce line friction and should not be used unless necessary.

It is estimated that an ordinary ⅜-inch jet in a straight 8¼-inch diameter exhaust line (without swages) will handle four or five million cubic feet per day. High-pressure gas where available may be used in place of steam.

Use of the Drilling Plug.—A suitable drilling plug should be kept in the mouth of the drilling nipple to aid in keeping the hydrogen sulphide gas off the derrick floor. The drilling crew of one well stated that in spite of the jet, "someone got a case of 'gas eyes' on every tour." This well was making no more gas than other wells where the derrick floor was kept free from gas by the use of a jet. Investigation showed that the jet had been placed at least 20 feet from the casing tee; the crew did not know whether or not the jet was concentric with the pipe; there were two 90° elbows in the exhaust line and the crew was not using a drilling plug. Every one of these points probably contributed to the unsuccessful operation of the jet.

The drilling plug should not be a make-shift affair, wrapped with sacking or other picked up material, but should be a tight fitting plug, either solid or split, that will allow the free passage of the cable.

*Throughout the following discussions one set of pipe sizes is used for the sake of uniformity but other sizes are just as applicable.



The fresh air base which supplies the worker in the cellar of the well who wears a gas mask as a precaution against being overcome by hydrogen sulphide gas.

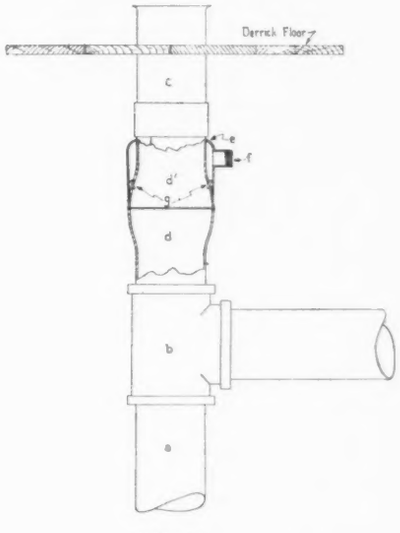


FIGURE-2

Sketch Of Snuffer And Casing Jet To Aid In Expelling Gas Through Exhaust Line

A Snuffer and Casing Jet.—Credit is due Mr. Earl Smith, assistant superintendent of drilling, Marland Oil Co. of Texas, Panhandle division, for devising a jet to be placed on the top of the casing itself, to aid in expelling the gas through the exhaust line, as shown in Figure 2. This device screws into the top of the tee, b, placed on the casing a. For 8¼-inch casing, two 8¼ by 10-inch swaged nipples are used. The larger ends of the two swaged nipples, d, are welded together, giving an overall dimension of about 18-inches. A header, e, made of a bull plug, is welded to form a complete jacket, around the smaller end of the upper swage. A 2-inch outlet, f, for steam connection, is welded into this header. Sixteen ⅜-inch pipes, g, are placed at equal intervals around the periphery of the upper swage. These jet nozzles must be placed in such a way that the tools will clear them, and yet they should be pointed so that their stream lines will converge at a common center, several inches above the top of the side outlet of the tee. The dynamic force of this jet holds back the gas that would tend to escape from the top of the casing rather than through the exhaust pipe. This is an application of a fire snuffer but seems to work effectively in keeping gas off the derrick floor.

Other Devices.—Any mechanical means that effectively keeps the gas off the derrick floor should be acceptable. A suggestion has come from the field that a steam-driven fan could be placed in the exhaust line. The writers saw

no such installations but the working principle is feasible.

Use of the "rat-hole."—Some companies are making use of a "rat-hole" very advantageously to keep their men out of the stream line flow of the gas while changing drilling tools. The "rat-hole" should be 60 feet deep, lined with either 8¼ or 10-inch old casing, according to the size of drilling tools to be used in penetrating the gas zone. It should be drilled at the time of spudding in a well, and should always be used for breaking tool joints and for changing tools, when gas is coming out of the casing of the main hole. Where possible, it should be drilled on the prevailing windward side of the well and at a sufficient distance to prevent the men from working over the gas while changing tools. Only a few hours time are required to drill this auxiliary hole and its use will eliminate two drilling hazards:

1. Tools dropped in the hole from the surface, usually entailing a costly fishing job.
2. Tools dropped in the cellar with the possibility of breaking some of the bradenhead connections.

It will also prevent many cases of conjunctivitis and respiratory tract irritation.

Removal of the Derrick Siding.—To give further assurance that the derrick floor will be as free from hydrogen sulphide gas as possible, the siding should be removed from the derrick up to the top of the first girt, from the time that this gas is encountered until it is cased off. The free passage of wind currents will greatly facilitate ventilation and help dilute the harmful concentrations**.

Cellars and Runways

ALTHOUGH it has been recommended that all men wear hose masks while working in the cellar, an improved construction of the cellars and cellar exits or runways, which the men must use when putting on the bradenhead, will reduce the hazards caused by hydrogen sulphide gas in the Panhandle Field.

A survey of these working places throughout the field, indicates:

1. The cellars are generally too deep. They are often 16 feet deep measured from the surface of the ground. Ten feet is sufficient.
2. The cellar exits or runways are too steep and too narrow. Often they have insufficient head room and contain obstructions that may cause stumbling or make it difficult to remove a man from the cellar, if need arises. In many cases, improper cribbing has allowed the walls to bulge inward.
3. In most of the cellars, there is a four-foot perpendicular drop from the bottom of the runway to the floor of the cellar. This condition is very objectionable because a workman may fall into this hole, either from being gassed or from slipping while at work. It would be very difficult to remove an injured person from the bottom of such a cellar, especially if the cellar were filled with gas.

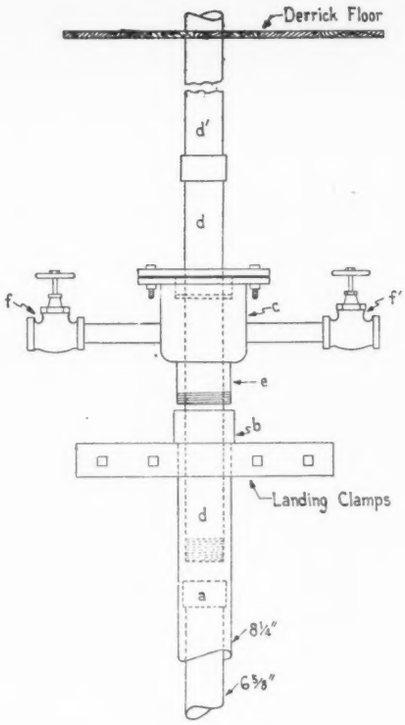


FIGURE-3

Sketch Showing Revised Method Of Putting On The "Bradenhead"

At most wells in the Panhandle field a cellar, ten feet deep, measured from the surface of the ground, will take care of drilling needs. Where a greater depth is required in setting the conductor pipe and first string of casing above the gas zone, a substantial false floor should be constructed to cover the entire area of the cellar at a height suitable for putting on the bradenhead. The flooring should be of 2-inch plank and placed before the gas zone is struck and while the cellar is still free from gas. Cellars should never be less than 8 x 8 feet, lateral dimensions, in the clear. Men working in cramped quarters are always at a disadvantage.

Many companies are building two runways to their cellars. This practice is recommended for all wells in the gassy area, for this type of construction gives an opportunity for air currents to drive out the gas that may collect in the cellar.

Where permitted by the surface conditions and other factors that determine the plant layout, the best results will be obtained from a double runway by building the derrick with the runways parallel to the prevailing wind. One of the runways—preferably the one on the windward side of the derrick—should have a slope never more than 20° from the horizontal (or 36.4 per cent). This provision is included in the safety orders of some States. No pipe nor any other obstruction should ever be permitted in the 20° runway, it should be used exclusively for a man-way. The other or ventilating runway should be kept as free from obstructions as possible. It should be constructed with the idea that it too may be used as a man-way although it may be expedient to run a pipe or the extension handle to a control gate out through this runway.

Runways should be not less than three feet wide in the clear. The clearance between the floor of a runway and the derrick sills should not be less than seven feet, and there should be ample head room throughout the entire length. The practice of nailing cleats or braces between posts at heights where a man coming out of the cellar is liable to strike them should not be permitted.

The runways should be properly cribbed or shored to prevent caving and should have a solid board walk, properly cleated to prevent slipping. They should terminate at the bottom of the cellar. Where this is not possible, the bottom of the slope should be on the same level as the false floor.

Putting on the "Bradenhead"

ALTHOUGH no man should go into the derrick cellar without wearing a hose mask, after the hydrogen sulphide gas has been encountered, (this fact has been pointed out under the heading of Protective Equipment), there are several operations by which the whole job of putting on the stuffing box casing head (bradenhead) can be expedited and the time of working in the cellar with a mask considerably reduced.

The Ordinary Method.—Ordinarily, the bradenhead body, from which the follower and packing rings have been removed, is screwed to the top of the 8¼-inch "string" by using a piece of 8¼-inch casing screwed into an inner thread that is provided in the body. This "letting-in joint," is then backed out and of course the gas blows uncontrolled, filling the cellar as well as making working conditions on the derrick floor dangerous. The 6⅝-inch joint must be stabbed into its collar; the packing rings and follower adjusted and put in place; the piping to the side outlets connected; and all joints and bolts made tight under unfavorable conditions of high gas concentration.

A Revised Method.—One company at least has successfully used the following method of putting on the bradenhead. (See Figure 3.)

After the 6⅝-inch casing has been landed or cemented, the distance between its top collar, a, and the top collar of the 8¼-inch casing, b, is measured. This distance is usually about three feet, and it takes only a few minutes for a man wearing a hose mask to make this correct measurement.

On the derrick walk, away from the flow of gas, the bradenhead, c, is made up complete, slip tight, on a 6⅝-inch "letting-in" joint. The letting-in joint is made up of two nipples, d and d¹. The length of the bottom nipple, d, depends

**The writers are not unfamiliar with the low temperatures experienced in the Texas Panhandle during the winter season. However, the effectiveness of this method of helping free the derrick floor of gas has been demonstrated and should be listed as a preventive measure.

upon the measurement taken in order that the top of the casing will be at the required height for putting on the control casing head and oil saver when the job is finished. An 8¼- x 8-inch nipple, e, is screwed into the bottom of the bradenhead, and 3-inch nipples are screwed into the side outlets with gate valves, f, f^1, on their outer ends. These valves are closed. A strong rope is given a hitch around the body of the bradenhead and the 6⅝-inch letting-in joint, so that the joint will not turn in the packing gland.

The bradenhead is then lowered into the cellar by means of the letting-in joint, and the nipple, e, is stabbed into the collar, b. As soon as this connection is made up—by turning the 6⅝-inch letting-in joint on the derrick floor all of the gas escapes to the air out of the top of d^1 above the heads of the workmen. Care must be taken to place the bradenhead on the letting-in joint in such a way that when the nipple, e, is made tight there will still be several inches clearance between the threads on the bottom of d and the collar, a.

As soon as the nipple, e, is tight in its collar, pipes are screwed into the gate valves, f and f^1, and the lines laid a safe distance away from the derrick. The side outlet gates are then opened. These outlets take much of the gas that has hitherto been going up the letting-in joint.

The rope hitch is removed from around the bradenhead and the 6⅝-inch letting-in joint, and the joint itself is stabbed into its collar, a, and screwed tight from the derrick floor. The proper stretch is then put in the 6⅝-inch string of casing, and the bolts on the bradenhead are made tight.

By this method, which was observed by the writers, the men are forced to work in the gas for only a short time. It is claimed that no injury to the packing will result from this method of putting on the bradenhead.

Use of a Spider

IT would be advantageous to use a 6⅝-inch casing spider on top of the casing head, to assure the proper stretch in the 6⅝-inch string of casing, or a packing spider in place of the ordinary bradenhead. A packing spider has the combined advantages of a casing head and a spider. This piece of equipment also takes the place of a blowout preventer, and assures greater safety to men and the well than the present general practice.

Losses Due to Improper Methods

THE necessity of taking precautionary measures of having at least two hose masks as part of the equipment on every casing-head job and of conducting the work according to a well thought-out method is very important. This statement applies not only in regard to the safety of the men, but also for the uninterrupted progress of the well. Delays are always costly, and especially is this true where all operations are suspended at the well, due to lack of proper breathing equipment.

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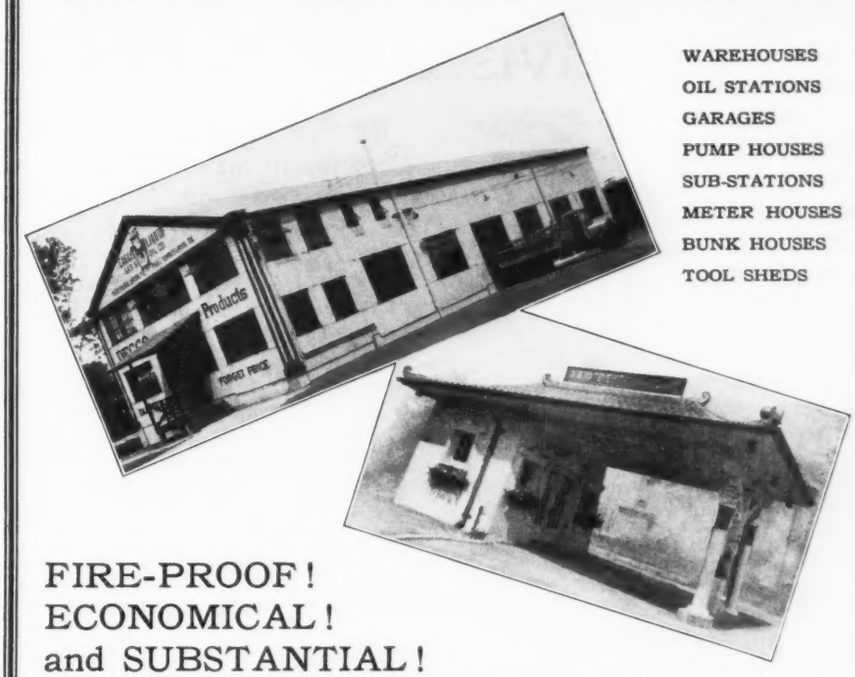

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Fig. 293

Flanged, Jenkins Extra Heavy Iron Body Automatic Equalizing Stop and Check (Non-Return) Angle Valve

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Expert Inspection of Pressure Equipment Advised as Safety Measure

By Franklin L. Newcomb
Engineering Department, Standard Oil Co. of New Jersey
Read Before Petroleum Section, National Safety Council, Detroit

MUCH has been said and is being done to promote safety in the producing fields. The hazards of carelessness about marketing stations and the dangers of static electricity have been stated and restated, but little has been said of what is being done and might be done to safeguard workers about refineries, especially those who labor in proximity to high pressure stills and auxiliary equipment.

Mr. Newcomb, of the general engineering department of the Standard Oil Co. of New Jersey, because of his years of experience with refinery processes and equipment, was selected to tell petroleum safety workers at Detroit what is being done in the refining division of the industry. He outlined the major refining operations and sketched the hazards to be encountered around low and high pressure stills, agitators and continuous treaters, barrel houses, pumps and pipe lines; in fact, everywhere around a refinery. What is being done to overcome the hazards and prevent accidents, he relates in the accompanying article. He also has suggestions that any refiner might apply in whole or in part.—Editor.

IT is apparent that practically every operation about a refinery has the potentialities of being a hazard. There are three main factors which enter into the safety of these processes.

1—The equipment used must be suitable for the job, that is, it must be made of the right material, properly put together and of ample strength. This is a problem of design and an engineering function.

2—The proper methods must be used in handling the equipment and performing the various operations. This is a problem of operation.

3—The equipment must be kept in good condition at all times. This is a problem of inspection and maintenance.

Only a comparatively few years ago, most of the design was by rule of thumb. The operating man said what he wanted and the foremen of the various trades did the rest. The boilermaker built a still making it as thick as he thought necessary and riveting it together as his experience dictated. Even at that, we got a pretty good job because we usually had a pretty good boilermaker foreman. It was the same with the pipe-fitting, masonry, and so on.

Seek Correct Materials

BUT they did not always get the material best suited for the conditions, nor did they always make proper provision for all of the strains. Today, our large companies all have well organized engineering departments and equipment is being designed scientifically. Investigations are being made into the most suitable materials to be used in different locations and under various conditions. Cracking and other pressure equipment particularly is receiving intensive study.

Taking the second fact, that of employing proper methods in the handling of the equipment and performing the various operations, our operating people are giving it considerable attention today. Processes are being studied and analyzed by our executives. In some companies well organized departments are making careful research to find the best methods of operation, not only to get the maximum yields of the most valuable products, but also to avoid accidents and fires which may result in long shut-downs for repairs.

Our third fact, that of keeping the equipment in good condition, is being handled in two ways. Maintenance forces composed of mechanics, make periodic visual inspection of the equipment, usually during each cleaning period and make such repairs as appear necessary. This is, of course, an absolute necessity to keep the equipment operating.

Engineering Inspection

SOME of our companies have also an engineering inspection force to make more exhaustive inspections of equipment than can be done during the cleaning period by the maintenance forces. These engineering inspection forces were an outgrowth of the advent of cracking. After cracking equipment had been in operation for a number of years, serious failures began to occur and the industry began to make an investigation. It was found that cracking equipment deteriorated quite rapidly, especially in some particular places. As it operated under considerable pressure, it could not be permitted to go until leaks occurred or a sharp blow from a hammer would indicate a weak spot.

So gradually these engineering inspection forces were built up to make periodic, systematic inspection of the equipment.

The deterioration in cracking equipment is difficult to determine, as it is not visible to the eye, there usually being no marked pitted or corroded areas. Generally the metal has the same smooth appearance as when new. However, the deterioration is not uniform, but often occurs in long waves which cannot be seen and for this reason it is difficult to locate the thinnest spots.

Parts thinner than others can often be found by sounding with a light hammer, but it takes an experienced and trained man to know the sound. Due to the nature of the deterioration, it has become generally the custom to drill holes in various parts of the equipment to determine its actual thickness. These inspection forces also check over all parts of the equipment including pipe, valves, gauges, safety valves, etc., and check up to see that the refinery's maintenance forces are keeping everything in a safe condition.

Inspection Being Widened.

THE field covered by these engineering inspection forces is being gradually widened and inspections have been made of storage tanks, gas absorbers, gas holders, air receivers, acid and alkali eggs and such things. Men trained to inspect cracking equipment are admirably fitted to inspect any pressure equipment.

Although all the foregoing is being done for safe operation of the actual refining equipment, I believe your accident records will show lost time accidents due to failure of various parts of the equipment or to some operation of the equipment, and I further believe that you will find that generally such accidents are of a most serious nature.

Now that we have considered the work being done to make oil refining safe, let us consider what the safety department can do to further this work. It may appear that the engineering departments, process operators and maintenance forces are covering the situation, but you can assist materially in advancing this work.

Take the engineering and design. You safety men spend a good part of your time in the plant. You make inspections and you talk to and get acquainted with the men. They talk freely to you. A member of the engineering department does not hear the men's troubles. You can help by reporting what appears to be trouble with some particular kind of apparatus or some particular material, and give

the engineering department an opportunity to investigate.

Safety Men Can Help

ALMOST the same thing applies to the processing operations. Do the men ever tell of troubles with the methods employed? If they do, do you know enough about the operation to investigate and see if there is any foundation for the complaint? Then is it taken up and followed until a safe method is substituted?

On the maintenance and inspection you can help very greatly. Find the apparatus about the plant that is in need of inspection and then get it inspected. One of our plant safety men has made a list of every pressure vessel in his plant which is not now being inspected, and he is trying to get his superiors to ask for periodic engineering inspection of this equipment. I understand there are 110 pressure vessels on this list. This is what I mean by helping the inspection force.

Then as you get or can make the opportunity, study every operation and piece of equipment and look for unsafe practices and equipment.

Doggone, Here's A Story on "Hub" Meyer

TULSA, Oct. 22.—An hour until train time for Independence, Kans.

H. A. Meyer, of the Prairie Oil & Gas Co., Independence, placid and fine mannered, arrived in Tulsa from St. Louis, bound back home.

Forty-five minutes to train time.

Harry L. Norris chief scout for the Prairie, showed up at the station with news of a fine bull terrier for sale, just the kind of a dog Mr. Meyer had been looking for.

Fifteen minutes to train time.

Meyer, Norris and the dog were back at the station, the two having driven to the home where the dog was offered for sale, put it through its paces, and made the necessary negotiations with the owner.

Ten minutes to train time.

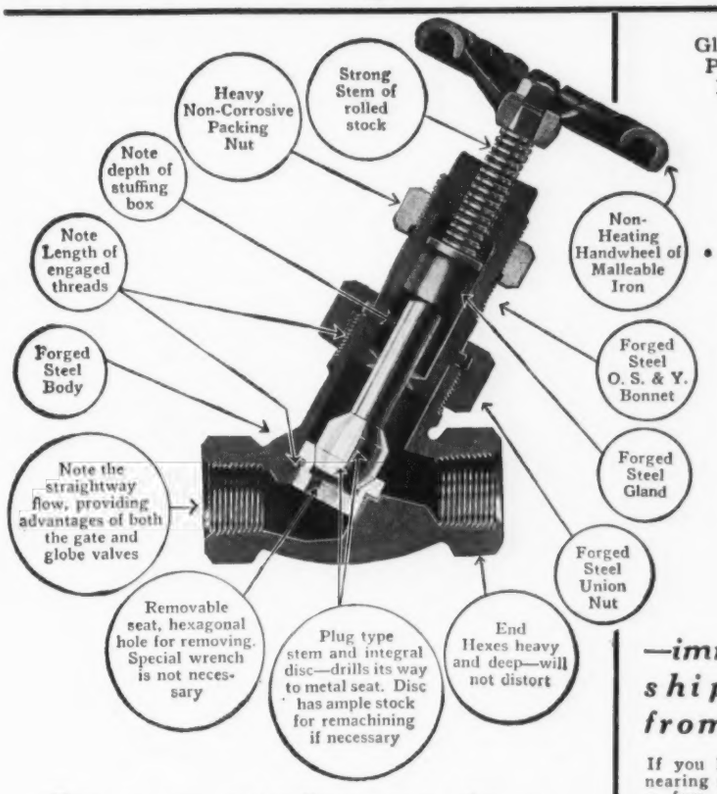
Meyer, beginning to look somewhat hurried, learned the dog must be muzzled before the baggage car would accept it for transportation. He made a fast tour of nearby stores, coming back with a muzzle.

Five minutes to train time.

Railroad agents, consulting the rules, decided the dog must be shipped in a box. The muzzle wouldn't do. Meyer decidedly harrassed by now, rushed across the street, returning with a box, hammer and nails. The dog was crated and ticketed.

The train pulled out on time. Shortly afterward, this Prairie official, placid and courteous as ever, appeared in the dining car, ordered, and sat back to discuss the oil business leisurely with those at the table.

Edward Forged Steel Valves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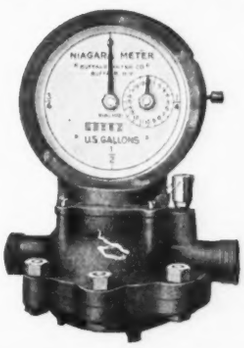

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Unfair and Confusing Rules of State Sealer Add to Cost of Pumps in Ohio

By Roger B. Stafford
N. P. N. Staff Writer

COLUMBUS, O., Oct. 23. FREAK regulations for gasoline pumps, indecision of the state bureau of weights and measures to approve or disapprove types of pumps, and a lack of centralization of authority in passing upon the construction of pumps and pump features, are costing Ohio oil distributors thousands of dollars needlessly each year and causing pump manufacturers no end of worry and anxiety.

A gasoline pump that passes state requirements in every other state will be condemned in Ohio, manufacturers say. A gasoline pump that meets every regulation in the suggested rules adopted by the National Conference of State Sealers of Weights and Measures held each year with the United States Bureau of Standards, fails to meet the approval of the confusing and unclear "interpretation" of regulations in this one state.

Manufacturers are endeavoring to build pumps that meet the ideas—some published and some hatched from time to time in the minds of divers county and city sealers—that are encountered at various times, but buyers are forced to pay premiums of $2.50 to $10 for each pump they intend to use in Ohio. The premium is for devices which are not required in other states.

Ohio Special Equipment

AMONG this Ohio extra equipment are three columns of markers in visible pumps of more than 9¾ inches bowl diameter; rigid signs "To Storage" and "To Car" on outlet lines to show where the gasoline is being delivered, this provision being required even with pumps from the bowls of which gasoline may be delivered only through the hose; and the word "gallon" or abbreviation "gal" on markers for all types of pumps.

In a circular sent out by the Ohio bureau the first week of September containing recommendations of 22 sealers in Ohio, which recommendations were adopted by Charles V. Truax, director of agriculture of Ohio, and ex officio state sealer, 34 pumps or metering devices were listed as meeting Ohio requirements, with several modifications including those mentioned in the preceding paragraph. The pumps and manufacturers receiving the provisional indorsements were:

United States Pump Co., Cincinnati, Model B40.

National Recording Pump Co., Dayton, O., National Visibowl, National Duplex, and National Simplex models.

Erie Meter Systems, Erie, Pa., metering system.

Pittsburgh Gasoline Pump Co., Pittsburgh, model A.

Wayne Pump & Tank Co., Fort Wayne, Ind., models 480, 515, 515F, 517, 517F, 519 and 519F.

Pennsylvania Pump Co., Pittsburgh, models 717 and 7.

Tokheim Oil Tank & Pump Co., Fort Wayne, Ind., models 600, and 605.

Guarantee Liquid Measure Co., Rochester, Pa., models 87, 17, and 117.

American Oil Tank Pump & Tank Co., Cincinnati, models 1240, 1440, 540, 740, 1343, and 1443.

Milwaukee Tank Works, Milwaukee, Wis., model 585.

Dayton Pump & Mfg. Co., Dayton, O., models 200 and 350.

S. F. Bowser & Co., Fort Wayne, Ind., C81 with either hand electric or air power, 97 and 99.

Gilbert & Barker Mfg. Co., Springfield, Mass., T177, T65 and T99.

Correct Measure Co., Rochester, Pa., models 10H and 5H.

Fleckenstein Visible Gasometer Co., Grand Rapids, Mich., models 500 and 400.

Pittsburgh Meter Co., Pittsburgh, meters with clock faces.

Grief in the Field

ACCOMPANYING the list was a statement that these manufacturers have guaranteed or declared that they would sell only these models and none others in Ohio. Many of the pumps have not been inspected by any sealer, it was said, but upon the recommendation of the committee of 22 the state sealer believed those pumps should be allowed a field test.

It is in the field tests that so much grief is encountered. The county and city sealers are without definite instruction. It is true they have a book entitled, "Specifications and Tolerance for Weighing and Measuring Devices and Instructions to Sealers" but in some cases the phrasing is confusing. One manufacturer of pumps said even a lawyer couldn't make out what was meant in some of the confused phrases; only a guess could be made.

That the list of partly approved pumps is incomplete is admitted by the state bureau and that some manufacturers may have had some misunderstanding about what the committee of 22 sealers wanted also is admitted. Nevertheless, it was put out and is published here merely as a record of a state of Ohio circular and not as a list of only those pumps which may be sold in Ohio. There are others, including some of the widely known makes, that with some extra equipment could meet the Ohio requirements, or perhaps it might be better stated, meet the requirements in at least part of Ohio.

What State Says of List

THE attitude of the state in the matter was stated as follows:

"Sixteen companies from a possible 31 have qualified sufficiently with these 34 pumps to allow a thorough field test. This is enough to supply the demand and when any of these are found defective they should be condemned and reported to the state department. These and other companies may develop still better pumps and the state department will issue another list to include these or make any corrections to this list when it is deemed necessary.

"It might be possible from some misunderstanding or in not receiving information through the mail or in some other manner that there may be other companies that have pumps as good as some of these listed that the department to date has no knowledge or not sufficient information to warrant them to be listed and in order to treat every company absolutely fair we will not stop the use of any pump that meets the specifications. Any company before selling a pump not listed and willing to guarantee to meet requirements should first submit proper description to the state department."

In the foregoing statement the state bureau of weights and measures is probably meant and not the state department.

Several states including New York, New Jersey, Massachusetts, Alabama, Pennsylvania and Wisconsin, have arranged for definite state sealer approval of types of pumps. But in Ohio there is no such centralization of authority. Each county has a sealer and most of the cities have sealers. Too much leeway is permitted these local sealers who are part not of a well organized body but a mob of public officials, each of whom may interpret important parts of the weights and measures code to his own liking.

Interpretations Confused

THE interpretations of the state sealer are indefinite as well as confusing. In the preamble it is said:

"All devices installed after Jan. 1, 1926, must meet all the specifications to get approval without restrictions. This

means we want all specifications met by manufacturers as soon as possible in order for them to secure an unqualified approval, but in the meantime devices may be allowed to be used for a time when major qualifications are met, with the understanding that the device is not fully up to standard and that an effort will be made by all concerned to secure standard equipment within a reasonable time."

The questions arise as to who will make the approval, how long is the "meantime" how long is a "reasonable time" and who are the "all concerned," pump manufacturers or oil distributors.

An interpretation of the section dealing with sensitiveness follows: All devices must deliver readily within tolerance. Rigid tests have proven that this can be done from 9¾-inch bowl with inside indicators, but that it cannot be done from 12-inch bowl with outside indicator and depending entirely upon eye vision of the operator."

Questions arising are, "What about a 12-inch bowl with inside indicator?" and "Why make the comparisons between two sizes of bowls with indicators of each placed differently."

Section 42 deals with constancy of delivery and the one-hour and six-hour tests for condition of pumps not in constant use. The uninterpretable interpretation follows: "It is only fair to use a reasonable operating speed on this test, and as there is now in process of manufacture devices that bowl is not to be filled only at time of delivery, and exempt from this test in so far as the one- and six-hour test applies, but must hold liquid long enough to make accurate delivery to car."

Phrasing is Bewildering

THE phrasing of this is bewildering but the confusion of tests is worse, pump men say. The one-and six-hour tests are used on blind tests exclusively, the manufacturers say.

The Ohio sealer's idea of a "reasonable angle of vision" is from the driver's seat of the automobile. The idea for three sets of indicators or markers in bowls is said to have come from such a visible pump of generally triangular design and in which the three columns of markers were placed for the sake of symmetry only.

Manufacturers are frankly puzzled over what will be acceptable to the Ohio sealers, both state and local. They say they can get nothing definite from the state and that the state officers refuse to specify to local sealers just what is passable.

Jobbers whose pumps have been ruthlessly condemned, even though the pumps have met the regulations adopted by the National Conference of State Sealers of Weights and Measures, have gone back to the manufacturers for relief, but the manufacturers are stumped by Ohio's Do and Be Damned policy.

Regulation of gasoline devices has been in the hands of J. C. Tinkey, deputy state sealer, and his name appears on the title page of the new book of regulations as compiler.

In the circular listing the pumps is a sentence which reads: "All eye measure pumps with wider bowls than 9¾ inches prohibited. Adopted tentatively until Sept. 1, 1926, provided they are equipped with" and then follows the number of certain restrictions. The word "tentatively" is defined by the state sealers' conference as "Such contemplated use or usage to be complied with when possible but in no case shall they be mandatory, obligatory or enforceable, until after the specified or sufficient time has expired."

Manufacturers cannot reconcile the state bureau's order and its definition. And also, the order was retroactive because it was not mailed out until after it was to have become effective, so far as can be ascertained.

PITTSBURGH, Oct. 23—S. M. Hamilton, formerly secretary and assistant treasurer of the Waverly Oil Works, resigned Sept. 1, and Kinley J. Tener, a Pittsburgh attorney, was elected to his place, according to T. J. Hilliard, president of the company. Mr. Tener is a nephew of former Gov. Tener.

More Parts Mean More Trouble

This is a statement worth repeating; the whole tendency in mechanics is to simplify construction; the fewer parts the less chance of trouble and the lower the upkeep. We learned that lesson years ago and built Dayton Air Compressors to conform to that ideal. That is why you so seldom see an "Out of Order" sign where Daytons are furnishing air.

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OH, WHAT ARE THE WILD WAVES SAYING?

Federal Board's First Report Is Praised By Welliver

TULSA, Oct. 23.

CHARACTERIZING the recent report made by the Federal Oil Conservation Board as embodying a "broad-minded view," Judson C. Welliver, director of public relations, American Petroleum Institute, outlined to the Mid-Continent Oil & Gas Association at the annual banquet, Oct. 12, the relationship of the public to the problem of conserving petroleum resources of this nation.

The first utterance of the Board, said Mr. Welliver, is "altogether reassuring."

"The public, the industry, and the Board are all entitled to congratulation that no extreme proposals have been seriously put forward in the preliminary report. Rather, the Board has recommended various simple and commonsense measures, most of which have already been adopted by the industry, or would be if legal barriers against them were removed; and the Board advises removal of these barriers. It urges co-operation within the industry, and between the industry and the Government, for better recovery and more effective utilization of petroleum. And as to all these things the Board declares that 'the major part of the measures that must be taken to protect our future supplies must rest upon the normal commercial initiative of private enterprise.'

Avoiding Experiment

"THIS is a recognition of the industry's ability to find and then to follow the right course. Beyond that, it is an evidence of purpose to avoid drastic, revolutionary or paternalistic programs. Such an assurance is doubly gratifying. It not only warrants this particular industry in hoping for a reasonably free hand in working out its own destiny, but it is bound to be regarded as an earnest of moderation, reasonableness and conservatism in governmental attitudes toward business generally. In the last three or four decades we have had a good deal of effort to regulate perfection into business, and it is reassuring to note the evidence of a diminishing confidence in legislative and regulatory supervision.

"This particular industry is entitled to be dealt with in that spirit of moderation and reasonableness which colors the Board's report. For it is an industry which may fairly be called unique in certain regards. No matter what some men may say about their confidence that its basic supplies will last as long as they are needed; no matter what others may say in support of their belief that we are on the verge of exhausting these supplies—the truth is that none of them can be sure of their facts. The only thing of which we can be certain is the immutability of some elemental economic and industrial truths. No matter how earnestly we may desire, we cannot recover and utilize a greater supply of petroleum than exists. There is every reason why we should wish that supply to serve us as long as possible, and should adopt our industrial methods to that end. But we should not urge upon our generation a kind of conservation which only the miser would understand. The miser, hoarding his gold, may fall upon the day when it will have lost its value. If that befalls, he will have lost both the gratification which it might have brought in the present and the power which it might have represented in the future.

True Conservation

"THIS question of conserving our petroleum presents a very accurate parallel. Tomorrow may not need our petroleum; and if it does it may discover that it has more than it needs. Our duty, in the light of our present knowledge and understanding, is to use it with reason and moderation, to apply the most effective methods of recovery, refinement and utilization, and to avoid parsimony that, by paralyzing effort and preventing progress, might easily produce disastrous consequences."

ROCHESTER, N. Y.—The F. B. Rae Oil Co. has built a fireproof garage to replace one burned late last year.

The Editor's Viewpoint

Performing a Very Human Service

"COMMITTEE D-2" is a most inhuman name for a most human committee that is dealing with thousands of human beings in the oil industry. The name sounds as if it had been worked out on some engineer's slide rule. It gives no inkling as to what the committee is or what it is doing. One must know the committee to appreciate that.

At first glance the name seems proper for a committee charged with the seemingly dry task of setting up tests and methods of tests for petroleum products for a national society which has specialized on tests for all kinds of industrial products for years, known as the American Society for Testing Materials. It is a highly scientific committee, being composed of something over a hundred men, who are prominent in their respective activities, half of them being from the oil industry.

This is the committee which has standardized the thermometer, the hydrometer, the instrument for making distillation tests, the viscosimeter and a lot of other testing apparatus the industry uses.

But more important than all these, this is the committee which is reducing the friction between human beings in the oil industry. It is cutting down the opportunities for argument between buyer and seller, the argument over the tests, quantity and the quality of the product sold. The results of its work are used by every refining, natural gasoline and marketing company in the country and by practically all the producing companies. When the committee puts the product of its labor—these standardized and simplified tests—into the hands of all these thousands of oil men, it is stirring those oil men to a greater realization of the value of things scientific in the oil industry and is educating them to a greater use of things scientific.

Too many men in oil companies today don't yet understand what the committee is and what it is trying to do. The committee is planning to inform the industry more as to its activities. This should be welcomed by everyone. Nothing should stand in the way of the fullest development of the committee's efforts on behalf of the industry. —W. C. P.

Putting It To the Voters

EVERY active oil man in Oklahoma, whether he be in the producing, refining or marketing branch of the industry, should enlist himself for the period until election day in the organized effort the Mid-Continent Oil & Gas Association is carrying on to acquaint voters of the state with the real facts concerning Tax Bill 89.

This bill to be submitted at the polls proposes to change the tax rate on gross production from the present flat three per cent to the average ad valorem rate of all state taxing districts. Confusion and uncertainty in tax matters generally would result from the change, the purpose of which undoubtedly is to increase the gross production tax rate, although oil now carries more than its just share of the tax burden of the state.

If this measure carries it will almost certainly be due to the misinformation on the subject put before the voters by the politicians, despite the great amount of educational work the Mid-Continent association has done in this matter. This being one of the few cases where the question of taxes on the oil industry has rested with the voter direct through initiative proceedings, the result may be taken elsewhere as indicating that the public does desire to discriminate against the oil industry in tax matters, as compared with other industries.

We do not believe that this is the case in Oklahoma or any other state. We believe the results of the vote on this tax proposal in Oklahoma will be a rebuke to the politicians who have proposed it. But it should be a personal matter with every oil man, or man allied with the oil industry in the state, regardless of the branch in which he is operating, to see that voters are informed on the true nature of the proposed bill and also that they register their decision at the polls.—V. B. G.

Hardly a Fair Picture

MAYBE we shouldn't kick, but it seems that every time the oil industry breaks into print, especially in fiction, the picture painted is one not wholly pleasing, to say the least, to the average oil man.

In order to make the story good, the average fiction writer has to take the high spots of the oil industry, or possibly add a few on his own account, so that the public probably gets the impression that an oil man is a big rough-neck, strong for liquor and women, with no regard particularly for other people, their feelings or their property rights, and a man who all the time, is making somewhere around a million dollars a week, or a month, or at least in a year. Rather a swaggering industrial buccaneer and soldier of fortune.

Such is somewhat the character that Joseph Hergesheimer has painted as his hero in his last book called "TAMPICO". The setting is Tampico, Mexico, in the heyday of the last big oil boom.

As a picture painter there are many things in the book for which Mr. Hergesheimer is to be commended, whether it is good publicity for the oil industry or not. His glimpse of the sporting life in Tampico and the more adventurous life out in the Monte and at Zacamixtle is good.

The unfortunate part about it all is that one gets the impression that most oil men are of the type of the hero and that the oil conquest of Mexico, if it may be called that, has been achieved by similar adventurers for whom murder was only an incident.

True, the oil industry has had a rather riotous time in Mexico and it has had to meet conditions as it found them even from hour to hour. The oil industry could not wait, any more than the world could wait, on its supply of petroleum, for a few thousand missionaries to civilize the country—if they do civilize a country—which might be 100 or 500 years off.

Anyone who has been familiar with the detailed operations of American oil companies in Mexico knows that the industry's methods have been particularly fine, honorable and fair on the whole, and they also know that the Mexicans, both those in high office and the peons, have on the whole been good people to deal with.

Mr. Hergesheimer's story may be a true picture as to some particular activities of some particular individuals, but it is not a fair picture of the oil industry in Mexico nor a fair picture of Mexico and its relations with the oil industry.—W. C. P.

Western Australia*—Outlook For Oil Production In Desert Basin

By Frederick G. Clapp,**
New York City

Introduction

FOR some years past the leading Australian newspapers and technical journals have contained references to "The Search for Oil". The subject has engrossed the attention of all classes in the island continent, so that one might almost say that its well educated inhabitants are divided into two classes—those who believe that Australia contains oil and those who do not.

In the latter part of 1923 the oil controversy had reached a stage where thousands of artesian wells sunk at widely separated points had failed to find oil and only a few of them had encountered some tens of thousand cubic feet of gas a day; and, in addition, a few widely scattered oil test wells from a few hundred to 4,000 feet deep had failed to find more than a few drops of petroleum. Exceptions to this statement are perhaps a couple of wells in eastern New South Wales and the "Roma bore" in southern Queenland, where several million cubic feet of gas a day were encountered at great depths and when tested, were found to contain a minute quantity of gasoline.

Keen-visioned business men and geologists of Australia were not satisfied, either with the quality of the negative evidence or with the lack of knowledge concerning the great basin areas of Triassic and Permo-Carboniferous ages from which certain apparently favorable reports had originated. These men realized—what the great public and the press did not—that Australia had never been properly investigated for oil, even in a reconnaissance way.

In a country as large as the United States which had never been studied by men familiar with oil fields and none of whose brilliant geologists professed any familiarity with oil geology, it was not to be expected that existing opinions would be of great value. Thus reasoned Albert Edward Broué of Sydney, who had determined to find oil if it existed, and who, late in 1923, engaged the writer to proceed to Western Australia for an intensive study of the oil question in the Desert and Northwest Basins, where he had options covering hundreds of thousands of square miles. Mr. Broué was later joined in the venture by Thos. Baker of Melbourne, who purchased an interest in the Western Australian venture. The investigations of the writer were made under instructions from Mr. Broué, and the results are published with his permission. The writer wishes to express his thanks to Prof. Sir T. W. Edgeworth David, the senior Australian geologist, and to Messrs. E. C. Andrews, government geologist of New South Wales, A. Gibb Maitland, government geologist of Western Australia, Leo Jones of Sydney, and other persons for advice and assistance rendered in many ways.

Fig. 1.—Map of Western Australia showing location of sedimentary basins.

Geography and Geology of Western Australia

THE state of Western Australia embraces 975,920 square miles, or about one-third the area of the United States. It extends from the 14th to the 35th degree of south latitude and its climate ranges from tropical to temperate. The rainfall varies from more than 40 inches per annum on the southwest coast to more than 30 inches per annum in a portion of the extreme north, but throughout about 60 per cent of the state it averages only about 10 inches and in some years is considerably drier.

Physiographically the state has previously been divided into (1) Coastal Plains, (2) Hill ranges and (3) Interior Plateaus, as will be understood by reading a physiographic outline of the State by Jutson [1]. The rocks range in age from Archean to Recent, as described in a rather complete treatise on general geology by Gibb Maitland[2], the Government Geologist, from whom certain details stated herein are taken, and by whom a bibliography of the geology of the State is also supplied.[3] The geologic relations to the other States of the Commonwealth have been discussed by David.[4]

Two thirds of the State, including the major part of the central areas, consists of igneous and greatly metamorphosed and altered complex—to describe all of which would be to embark on a lengthy geologic study, with every prospect that the areal extent, age and relations of many formations would remain inexplicable. Let the statement suffice that these ancient rocks occupy the immense central areas and touch the coast over vast distances, but that they are bordered and indented in places by artesian basins,

*Paper prepared for presentation before the American Association of Petroleum Geologists, New York meeting, November, 1926. Published here by special arrangement with the Bulletin of the Association.

**Consulting Geologist, 50 Church St., New York city.

1—Jutson, J. T.; W. A. Geol. Survey Bull. 61, 1914, 229 pp., 119 figs., 3 plates.

2—Maitland, A. Gibb; "A Summary of the Geology of Western Australia. The Mining Handbook," W. A. Geol. Survey Mem. No. 1, Chapter 1, 1919, 55 pp., map, and 80 figs.

3—W. A. Geol. Survey Bull. 1, 1898, pp.

4—David, Sir T. W. Edgeworth, "The Geology of the Commonwealth," Federal Handbook prepared in connection with the Eighty-fourth Meeting of the British Association for the Advancement of Science, 1914, pp. 241-325, 8 illus.

which the six areas (Fig. 1) mentioned in the following table are commonly recognized:

ARTESIAN BASINS OF WESTERN AUSTRALIA

Names	Approx. Area Sq. Miles
Desert	125,000
Eucla	100,000†
Northwest Coastal Plain	40,000
Gulf	5,000†
Ord River	3,000†

†Including the portion of the basin situated outside Western Australia.

A large part of the surface of Desert, Northwest, Coastal Plain and Gulf Basins consists of Permo-Carboniferous strata, that of Eucla Basin is Cretaceous and Tertiary, and that of Ord River Basin is Cambrian. Other minor Carboniferous and later areas exist; example, (1) the Collie coal field in southwestern Western Australia and (2) an inland Tertiary area in the upper Fortesque River valley, but these are unimportant.

When it is said that the population of Western Australia is only 332,000 persons, of whom 155,000 live in Perth, the capital city, it will be understood that not much may be known of the geologic or geographic details of vast regions. The white population of the north half of the state is limited to a few thousand.

General Description of Desert Basin

THE total population of Desert Basin is limited to about 3,000 persons (a few hundred whites and the rest Asiatics and aborigines) in Broome on the Indian Ocean, a few score of whites in Derby, the Fitzroy River valley and a belt 10 miles wide fringing the ocean, with possibly 2,000 savage aborigines in the desolate and largely unexplored area. There are no settlements except those of Broome and Derby. The Geological Survey of Western Australia, through its Government Geologist, Mr. Gibb Maitland and staff, has done remarkable work under great difficulties with insufficient funds, but the state is too vast to permit of its geology being deciphered by a few men only.

The largest artesian basin in the state lies in the southern part of Kimberley and northern part of Eastern Division, extending into the northeastern corner of Northwest Division. Desert Basin is roughly quadrilateral in shape, with its long division of 450 miles at approximately right angles to the coast, and its breadth of 325 miles extending northeast and southwest. About eighty per cent of this area lies inside a vast barren sand ridge country known as the "Great Sandy Desert", or sometimes the "Kimberley Desert". Only one road traverses the Basin from north to south along the coast.

The Desert Basin is a topographic as well as a stratigraphic unit, bounded on the north by a vertical sandstone escarpment which depresses the surface in that direction by several hundred feet. The basin extends east from a point 77 miles southeast of Broome, winding in and out from canyon to canyon and finally losing itself in a maze of table lands 200 miles farther east.

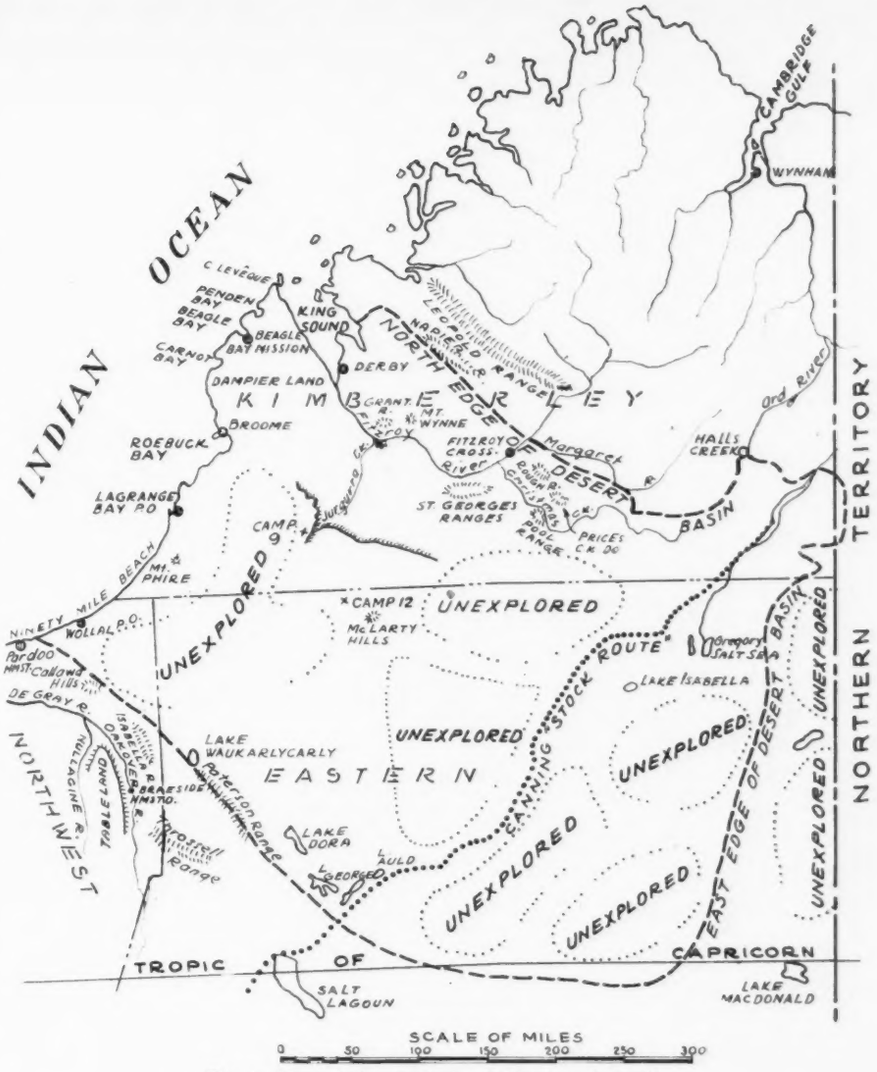


Fig. 2—Map of Desert Basin of Western Australia.

Previous Investigations

LITTLE geologic work has been done in this desert. Talbot[5], while engaged in a survey of the Canning Stock Route, crossed the desert in a southeasterly direction from Lat. 23°, Long. 122°30'. Leo Jones also traversed this route, but no report has been published on his observations. The expedition met with disaster, being attacked by aborigines at night; one man was murdered and the leader of the party injured, so that geologic work must have been greatly hampered. A later report by Talbot gives some information concerning a bit of the southwest border of the basin[6] in the vicinity of Throssel and Paterson ranges. The desert itself is only known to have been traversed half a dozen times, by the two geologists above mentioned and by the intrepid explorers Col. Warburton (1873), Hon. D. A. Carnegie (1896-7), R. J. Ankatell (1906) and the Calvert Expedition (1896-7). Practically every party crossing the desert has met with some fatal disaster.

Only in the northern edge of the basin has any important previous geologic work been done, for the valley of Fitzroy River is accessible by horse and automobile during the winter, or dry season, from Derby on King Sound to Hall's Creek in Lat. 18° 15', Long. 128°. The original geologic investigations in this area were made by Hardman[7], but a good summary report was later given by Jack[8] and its oil possibilities have recently been summarized by Wade[9]. Reports also have been made by Talbot and Blatchford for certain oil interests, but the present writer is unable to agree with the optimism expressed by them.

North Escarpment of the Interior Plateau

THE North Escarpment of the Interior Plateau constitutes a vast geographic feature. Commencing 35 miles

5—Talbot, H.W.B., "Geological Observations in the Country Between Wiluna, Hall's Creek, and Tanami," W. A. Geol. Survey, Bull. 39, 1910, 88 pp., 3 maps, 44 figs.

6—"The Geology and Mineral Resources of the Northwest, Central and Eastern Divisions Between Long. 119° and 122° E. and Lat. 22° and 28° S." W. A. Geol. Survey Bull. 83, 1920, 226 pp., 1 map, 55 figs. and an atlas of 15 plates.

7—Hardman, E. T., Report on the geology of the Kimberley District, Perth, printed by authority, 1884 and again in 1885.

8—Jack R. Logan, "The prospects of Obtaining Artesian Water in the Kimberley District," W. A. Geol. Survey, Bull. 25, 1906, 46 pp. and geol. map.

9—Wade, Arthur, Petroleum Prospects, Kimberley District of Western Australia and Northern Territory, Printed by order of the Senate, Oct. 8, 1924, pp. 10-26.

southeast of Hamilton's well which is 42 miles from Broome, the escarpment first appears merely as a breaking away of the coastal type of country known as the "pindan sands" which extends to that point from the inner edge of the "sea level plains" near Broome. The pindan sands, covered with a thick growth of many varieties of trees and shrubs, rise from sea-level to a height of perhaps 200 feet at Hamilton's well and to about 700 feet at the "breakaways" mentioned. A few low hills in the vicinity rise a few feet higher; hence the name "ranges" by which they are known to inhabitants of Kimberley Division.

The only claim of the North Escarpment to the designation "ranges" consists first, in a slight steepening in northeastward rise of the Plateau along a line where the "Desert sandstones" rise from beneath plains adjoining to the west and south, and secondly, in the erosional dissection of the sandstone itself, where it drops abruptly 100 to 300 feet into canyons, or "breakaways", tributary to the broad valley which descends slightly northward and constitutes part of the Fitzroy lowland. A generalized section across Desert Basin is shown in Fig. 3, from which the formations are seen to dip 1°-2° s.w.; hence the escarpment is typical of those the world over on up-dip flanks of structures in which sandstone is conspicuous. Calculations based on observed dips in the escarpment, on the coast and in Mt. Phire (see later) lead to the opinion that the escarpment strata and higher beds may be as much as 10,000 feet in thickness.

Although the Fitzroy valley northeast of the point, 77 miles southeast from Broome, where the escarpment is touched by the writer's motor road from Broome to the desert, can be reached by an easy grade of not more than 100 feet in a mile, and although the crest of the plateau is accessible on its west side by an even more imperceptible grade, the valley descends eastward and the "ranges" rise gradually

Abstract

Seven sedimentary artesian basins are in whole or in part, situated within the great State of Western Australia which covers an area about one-third the size of the United States. The largest of these is Desert Basin, comprising an area approximately 450 miles long and 325 miles wide, with a population of only about 3,000 persons. The formations of Desert Basin range in age from Carboniferous to Tertiary, and by far the most important is a mass of Permo-Carboniferous sandstone thousands of feet in thickness. No impervious capping is known and no positive evidence of seepages could be found in the area covered. Dips are high in the border areas and practically flat in the central areas; but, aside from the structure, no favorable fundamental conditions are known. The basin is believed to be unfavorable for oil.

southeastward, so that within a mile of the northwest termination of the escarpment the plateau is nearly 100 feet above the valley and a few miles farther southeast the relief is 200 feet or more.

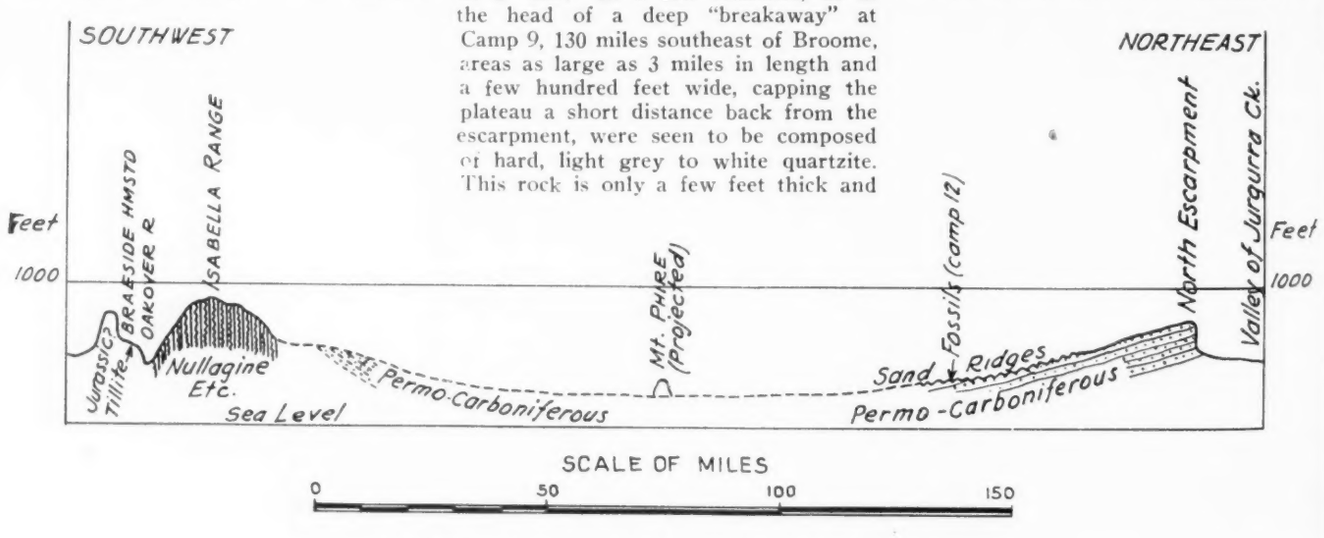
Many isolated tablelands with flat summits, from a few acres to several hundred acres in extent, stand in the valley, and are higher than the main plateau only by an amount equal to the normal rise in dip toward the northeast (several score feet in a mile). Maps of the Lands Department show several of these outliers, for example Goorda Tower, Babrongan Tower, Mt. Alexander, and Mt. Jarlemai, far to the northeast, and some of these were visible in the distance from points visited on the escarpment.

The rocks of the North Escarpment are fine grained white sandstones, somewhat aluminous but never calcareous or even approaching the consistency of shale. In places they contain numerous ferruginous concretions. The attitude of the rocks ranges from flat to a dip of 2° s.w. In a few localities, as at the head of a deep "breakaway" at Camp 9, 130 miles southeast of Broome, areas as large as 3 miles in length and a few hundred feet wide, capping the plateau a short distance back from the escarpment, were seen to be composed of hard, light grey to white quartzite. This rock is only a few feet thick and takes the place of limonitic laterite which is an almost constant feature of any sandstone outcrop in the semi-desert areas. Aerial and other observers report a great ledge of gray quartzite extending from a point on the Derby road, about 60 miles northeast of Boome north to the vicinity of Cape Leveque, and this last mentioned quartzite may constitute part of the same series of rocks. Such quartzite is frequently only a vitrified phase of the surface-hardened sandstones and is common in rocks of all ages throughout tropical Australia.

The escarpment is not simple in contour, but extends southeast many miles from its north extremity, then turns east, forming an irregular line of cliffs—vertical and inaccessible to a vehicle at any point, rarely scalable by man, and the crest attainable by horses only at points dozens of miles apart. The escarpment extends east approximately 200 miles and probably merges with certain tablelands described by Carnegie and others in the vicinity of Canning Stock Route. A remarkable circumstance is the absence of surface drainage in the desert area 400 miles long and 200 miles wide which constitutes the major part of the geologic basin.

Nature of the Desert

SOUTH of the escarpment the main feature is a vast complex of parallel and rather barren sand ridges trending east and west, interspersed with a few hills, table lands, and rock outcrops and devoid of water except for occasional rock holes and "native soaks". The region is predominantly rough and sandy, but its seaward belt a hundred miles or more in width, consists largely of thick "pindan" (low native bush) or brush. The center cannot be reached by any known means except camel or aeroplane. By diligent effort the party headed by the writer succeeded in driving three motor tractors to the top of the escarpment by way of its western gently rising termination; then it traveled with one of the machines at right angles to the trend of the sandridges to



SECTION ACROSS DESERT BASIN
(HYPOTHETICAL WHERE DOTTED)

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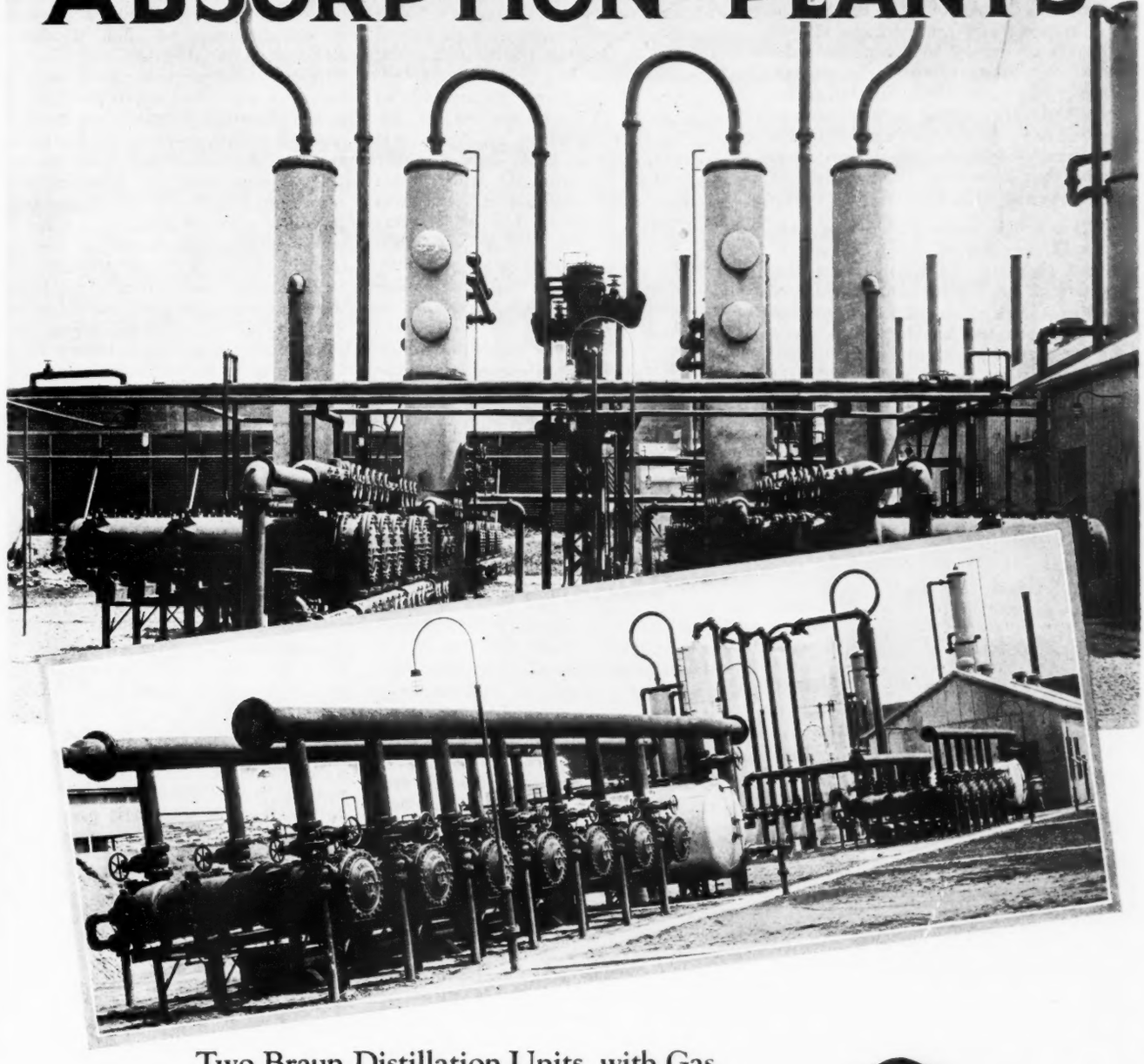

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a point 185 miles southeast of Broome. If the desert can be further invaded by car it will be by traveling parallel to these ridges directly inland from Ninety Mile Beach, with an engine consuming a minimum of gasoline and water such as has never been taken to that region.

Stratigraphy

THE strata of Desert Basin seem to consist of more than 12,000 feet of Carboniferous, Permo-Carboniferous, and Jurassic sediments, unconformably overlying Nullagine, Cambrian, and possibly Devonian beds. At, or near, the base of the Carboniferous are perhaps 800 to 1,000 feet of impure red goniatite limestones and massive coral limestones. These rocks and thick interstratified sandy beds are known in literature as the "Lower Series" of Carboniferous and Permo-Carboniferous ages, overlain by that known to all investigators to date as the "Upper Series".

Within a few score feet of the base of this "Upper Series" lies a 30-foot tillite bed (perhaps the Kimberley representative of the Lyons conglomerate of Northwest Basin) in which large and numerous striated boulders have been found at several places in Fitzroy valley. Above the tillite lie at least 4,000 feet of massive or flaggy white and gray sandstones, mainly quartzose and unfossiliferous, but containing several fossiliferous horizons. So far as observed by the writer, all shales and limestones in this series are thin and unimportant; although shales possibly 50 feet thick are reported in the northeastern part of the Basin. There is no doubt that this "Upper Series" is of Permo-Carboniferous age, for numerous fossil species have been collected in it and identified by the government geologists.

Fossil Collections and Their Significance

A point needing further attention is the abundant occurrence of large pectenoid valves and others resembling **Productus** in ferruginous conglomeratic sandstones of hematitic hardness between 83 and 87 sand ridges in the semi-desert area about 185 miles by tractor southeast of Broome, counting from the north, and estimated only a few miles west of McLarty Hills as mapped. No outcrops exist between here and the North Escarpment, but those mentioned are plentiful throughout several square miles at an elevation about 300 feet barometrically above sea-level. The fossils were examined by Mr. W. S. Dun of Sydney through the agency of Prof. Sir T. W. Edgeworth David and the courtesy of Mr. E. C. Andrews, Government Geologist of New South Wales, and were found not definitely determinable but of probable Permo-Carboniferous age. They include species of the genera **Spirifera, Athyris, Strophalosia, Stenopora, Chonetes** and many others, and the species are enumerated in a paper by the writer[10].

About 50 miles south of Fitzroy River and bounding the Great Plateau of Western Australia on its north side is the sandstone[11] escarpment already mentioned. Judging by dips prevalent in this escarpment the total thickness of the "Upper Series" may be as much as 10,000 feet, instead of 4,000 feet as previously assumed.

Probable Permo-Carboniferous Rocks of Dampier Land

ALTHOUGH the western edge of the peninsula (once known as Dampier Land and comprising Dampier's "Miserablest Country") west of King Sound is Jurassic as mapped, the balance of the peninsula may be largely of an age similar to that of the North Escarpment of the plateau. The impression of the writer is that the strata in the central parts of Dampier Land are of duller shades than the Jurassic which form the coast. The elevation of the central hills, several hundred feet above sea-level, together with certain structural evidences, gives an impression that they may constitute a fold against which Jurassic sediments were deposited to the west and southwest. A coarse ferruginous conglomeratic sandstone which forms Kings Peaks (low hills on the coast between Carnot and Beagle Bay about 60 miles due north of Broome) has a peculiar red glaze and hematitic veining, and its appearance suggests the Permo-Carboniferous beds 185 miles in the interior behind Ninety Mile Beach. Similar hard coarse red ferruginous sandstones extend from Kings Peaks to Beagle and Pender bays.

Rocks of Jurassic Age

THE published geologic map shows a Jurassic area in western Desert Basin, including a small patch near Derby, nearly the whole of the peninsula west of King Sound, and a belt along the coast with a breadth of from 40 miles near Broome diminishing to nothing at Wollal. Certain siliceous laterite and in many places quartz—or flint-capped remnants along and within a few miles of the coast, apparently contemporaneous with beds which descend at least 1,800 feet below sea-level in a Broome artesian well, are probably Jurassic, largely because of the presence of belemnites in that well. Doubtless an unconformity exists between Permo-Carboniferous and Jurassic strata, but it has not been proved, moreover, it is not yet known whether Jurassic rocks are limited to less than 2,000 feet or are many thousands of feet thick. So far as lithologic character is concerned these beds are not greatly different from the Permo-Carboniferous beds of the plateau escarpment, a fact which suggests that these sediments may form a continuous series, although the disparity in age renders such an interrupted cycle of deposition unlikely.

Gibb Maitland suggested[12] that Jurassic rocks "may extend some distance into the interior" east of Ninety Mile Beach. The Jurassics are not continuous nevertheless, for fossils, probable Permo-Carboniferous have been found in characteristicly glazed, red, conglomeratic sandstone at Anna Plains Station. This rock occurs in many places northward to LaGrange and beyond, and Permo-Carboniferous fossils occur plentifully in similar rock west of the mapped position of McLarty Hills.

The identification of Jurassic strata in western Desert Basin is dependent on the discovery by Gibb Maitland of Belemnites in artesian well No. 2 at Broome. The mapped extension of the Jurassics north and south from Broome is doubtless based largely on the occurrence of certain outcrops similar to those at Pt. Gantheaume and Entrance Point near Broome along the coast at widely separated localities from Cape Borda, 100 miles north of Broome to Cape Villaret, 25 miles southwest of the same town. The predominant rocks at these localities are fine-grained, cross bedded, white, quartz sandstones in which small flakes of mica are conspicuous. Mica flakes were not noticed in known Permo-Carboniferous rocks, but they may exist.

Cape Villaret is the last coastal outcrop to the south at which probable Jurassic material was seen, but Mt. Phire, 16 miles from the coast and 50 miles south of LaGrange Bay was found to be an unmapped table-top group of five hills distributed over an area of more than 2 square miles. The Mt. Phire group is estimated 100 to 300 feet above the sea-level plains. The hills as usual are capped by laterite. Owing to a roughly regular height of table-tops (Gantheaume Pt., Capes Borda and Villaret, Mt. Phire and Callawa Hills) 70 to 130 feet above outcrops, and to the presence of these practically flat-lying rocks within a few miles of the Broome artesian well in which Jurassic fossils were found, the rocks are probably of Jurassic age. Other outliers may be dotted over the southwest part of Desert Basin, but are as yet undiscovered.

Tertiary and Post-Tertiary Strata

THE Tertiary strata of Kimberley Division have received little attention. A careful study of the narrow coastal belt mapped as Tertiary and post-Tertiary between Roeburne and Broome might lead to interesting differentiations. Some outcrops of low-lying limestones and calcareous sandstones along the coast are undoubtedly Quarternary and Recent. Observations of the writer include the following:

1. Unconsolidated sand dunes and sand ridges constitute the most recent formation in Western Australia and are still being deposited, not only on the coast but also over large areas in the interior. In traverses south from the North Escarpment 85 of these great sand ridges were crossed, each constituting an entity, being straight and persistent and few of them having visible

10—"A Few Observations on the Geology and Geography of Northwest and Desert Basins, Western Australia," Proc. Linnean Soc., N.S.W., Vol. 1, pt. 2, 1925, pp. 54-5.

11—The term "Desert Sandstones" is unavailable, having been used far and wide throughout Australia, and apparently misapplied to strata of Carboniferous, Permo-Carboniferous, and Cretaceous-Tertiary age.

12—Op. Cit., P. 41.

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termination. Most of the ridges are covered with a growth of hummocky spinifex, but they have a greater proportion of sand than spinifex and support a few trees, as do also the valleys between them. The sand ridges are not only present in the interior, but strike the coast throughout a belt roughly 70 miles wide between Wollal and Pardoo Homesteads and render motor travel difficult along the main north-south road.

2. Raised sea beaches in the nature of sandstone, limestone and comminuted masses of shells and sand grains were seen at frequent intervals between Port Hedland and LaGrange, and they sometimes rise 50 feet above tide level. In topography they take the form of narrow belts some of which parallel the coast for miles. The surface of these beds is frequently hardened and the cross-bedding has a concentric pseudo-folded appearance.

3. Sea-level "marshes", including Roebuck, Anna, and other plains, exist at, or within 3 feet of, the present maximum high water mark. They are formed of silt, are saliferous and full of recent marine shells which have been identified by Mr. W. S. Dun. The plains have at times a diameter as much as 30 miles inland from the coast, fringed and backed by "pindan sands". These sea-level plains appear to be, next to unconsolidated sand dunes and raised beaches, the most recent formation of southern Kimberley Division.

4. Consolidated sand dunes are found. They are not necessarily older in every instance than the unconsolidated sand dunes, yet have the consistency of sandstone. They are in places wave-cut and show vertical sections 10 to 70 feet in height from Broome southward.

5. "Coquina", or shell rock, consisting of shell deposits 20 feet or more in thickness, is found above high water mark near Port Hedland and Broome.

6. A zone of red soil a few feet in thickness is exposed underneath the consolidated coastal sand dunes at Cape Villaret.

7. Practically all of the country about Broome, with the exception of the sea-level plains and small rock areas, is known as the "pindan sands". These consist of level to gently sloping unconsolidated sands which rise in places to several hundred feet above sea-level a few miles from the coast and in general slope upwards against older formations. These sands are probably of different ages from Permo-Carboniferous to Recent, and cannot be differentiated until enough wells are sunk to find and identify fossils at widespread localities. The "pindan sands" are generally covered with a thick growth of shrubs or low trees of many varieties, known collectively as "pindan". These sands cover nearly the whole of the peninsula west of King Sound, most of the country north and south of the Broome-Derby road, and extend southeast from the inner edge of Roebuck Plains a distance of more than 100 miles, merging beyond with the sand ridge country of the semi-desert. They also occupy spaces between the sand ridges.

Geologic Structure

DESERT Basin is not merely a topographic and stratigraphic unit, but also a structural one. Dipping southwest from the outcrops and faulted termination of the Permo-Carboniferous in the vicinity of Margaret River, the strata pass under this stream and Fitzroy River and thence to the center of the basin, where they are buried by an immense thickness of sandstones. In the plateau desert and central portions no abnormal or reverse dips are known, although outcrops have been observed at many widely separated points.

In the valleys of Fitzroy River and Christmas Creek, however, a number of excellent structures exist, such as would deserve oil prospecting if other fundamental conditions were in the least favorable. The structures have been mapped in detail by Mr. H. W. B. Talbot and Dr. Torrington Blatchford for Freney Kimberley Oil Company; their descriptions are contained in private reports of these men and in a published report by Wade[13].

The geologic structure of this border region constitutes the only fundamental condition which might be considered favorable from a petroliferous viewpoint, but its importance is minimized by the unfavorable nature of the other fundamentals. Thus a description of geologic structure is mainly of scientific interest. A post-Cambrian movement has displaced the strata of the present Fitzroy valley along a northwest-southeast line parallel to the bordering mountains, and later movements have folded the "lower" and "Upper Series" of Carboniferous and Permo-Carboniferous ages into angles as high as, or even higher than, Paleozoic strata which commonly yield oil. Reverse dips ranging from 3° to 35° can be seen throughout a distance of 200 miles in the vicinity of the Fitzroy River-Christmas Creek drainage, and they are accompanied by much faulting. Four prominent lines of folding in this valley have been studied and mapped by Blatchford and Talbot and checked by Wade, and these attain the character of domes and anticlines at Mt. Wynne, Grange Range, Pool Range, and Price's Creek. The Price's Creek structure is greatly faulted, lies within 10 miles of metamorphic rocks, and the older limestones lie at shallow depth. In addition, the strata along the same belt are intruded by a number of pipe-like masses of leucitite probably of Tertiary age.

Reservoir Rocks, Cover, and Petroliferous Content

THE question of the porosity of Desert Basin rocks is easily answered, for they consist mainly of sandstone from top to bottom. On the other hand, an absence of cover prevails, for nowhere in explorations of this basin did the writer recognize shale or limestone; the sandstones are mainly soft and porous (except for superficial lateritic silicification or hematitization due to climatic conditions), and only a few feet of shale are reported, near the base of the Permo-Carboniferous "Upper Series" and hence overlain by thousands of feet of mid-basin sandstones. Although sufficient carbonaceous or other organic matter to have furnished oil may exist in fossiliferous beds of the "Lower Series" of Carboniferous age, none of the outcropping strata shows any authentic trace of oil.

The only surface "oil indications" ever reported in Desert Basin are at Mt. Wynne and Price's Creek. Fine stringers of much desiccated bitumen were seen by the writer in specimens of sandstone—possibly semi-metamorphosed—derived from a "wildcat" well drilled at Mt. Wynne, 150 miles due east of Broome. Traces of oil were reported by Harry Price—a driller of water wells—from Price's Creek, 260 miles east-southeast of Broome, but have not been definitely confirmed by any one of several geologists who have visited the area in search of the "seepage". Somewhat later Freney Kimberley Oil Company drilled three tests on Price's Creek dome in "Lower Carboniferous limestone" and noted only "traces of oil" at 290 and 490 feet in the No. 1 well and "traces of oil" in the No. 3 well. Not a trace of natural gas or oil was found in any of the artesian bores at Broome and Derby, and no indications of gas have been reported among hundreds of stock wells 30 to 100 feet deep located in the coastal belt 10 miles wide extending from Broome southwest to Port Hedland—an air-line distance of nearly 300 miles.

Wells Drilled To Date

AT Mt. Wynne a test well was sunk by Freney Kimberley Oil Company without favorable result, except that Wade reports[14] that "globules of oil were noted in the sludge from 495 feet to 540 feet", and that "a further slight

(Continued on page 78)

13—Wade, Arthur, "Petroleum Prospects, Kimberley district of Western Australia and Northern Territory, Melbourne, published by order of the Senate dated Oct. 8, 1924, maps and plates.

14—Op. Cit., p. 22.

List of Existing Borings

Description	Date Completed	Depth (Feet)	Result	Yield* of Water
Broome No. 1	1906	1459	Water	142,000
Broome No. 2	....	1775	Water	?
Lennard Rd., 67 miles from Derby	1910	3012	Water	140,000
Lennard Rd., 82 miles from Derby	1910	391	Water	Non-flowing
Myall's Well, Derby	1910	900	Water	Flowing
Price's Creek (No. 1)	1922	1008	Dry	.....
Rough Range (No. 2)	1923	728	Dry	.....
Price's Creek (No. 3)	....	809	Dry	Non-flowing
Price's Creek (No. 4)	....	444	Water	Non-flowing
Mt. Wynne	1925	1403	Water	Plenty

*In gallons a day when allowed to flow uncontrolled.

Interior of new building for washing and lubrication service of the Red Wing Auto Laundry & Greasing Station, Red Wing, Minn. In the foreground is the washing pit, illuminated by lights set in the wall on each side. There are four pipes on each side of the pit, which lead into a single mixing chamber, then into a flexible hose which the operator handles. One pipe provides compressed air, one hot water, one cold water and a fourth soap suds. All are held under 100 pounds pressure.

Flat Prices Made for Monthly Servicing

ON the theory that force of habit is stronger than the warning of the speedometer, the Red Wing Auto Laundry, Greasing Station, Red Wing, Minn., is trying to induce its patrons to have their cars serviced regularly, one, twice, or three times a month, as the need may be, paying a flat price a month for the work.

The company recently opened an up-to-date greasing and washing station in Red Wing, which has a population of about 10,000.

Its entire investment in a 45 by 75-foot building, Klean-Rite washing plant, and Rotary Lift for greasing and oiling, is less than $10,000, according to C. S. Sultzer, Jr., the proprietor. The services it offers consist, in addition to oiling and greasing and washing, of simonizing and touching up paintless spots. The plant can wash five cars an hour, using five men, and can do a complete greasing job in 30 minutes.

The company offers four different priced monthly services, or it will send a representative, on a telephone call, to adjust a service to a motorist's particular needs. It makes a price of $3.50 a month for washing and greasing a car once a month; $6.75 when the job is done twice a month; $9.75 for three times and $12.50 for four times.

Includes Cost of Grease

THESE prices cover the cost of grease used, including transmission and differential. They allow the customer to purchase motor oil in five-gallon lots at the five-gallon price, and to have his crankcase serviced at specified mileage at no further cost, if this service is not given when the car is in for washing or greasing.

"The Red Wing Auto-Laundry & Greasing Station has now been thoroughly tested and is ready for the service of the public under the direction of a man who has had five years of actual experience in this work," said a circular letter in which the company announced its opening.

"We want to emphasize that the latest type of scientifically constructed machinery has been installed for washing, greasing and servicing your car. It can give you in a few minutes a thoroughly clean, well greased and oiled car, reduce your repair bill and double the life of the car, at prices no greater than you have been paying."

Along with this letter the company sent a pamphlet describing in detail how the work is done. For example, under greasing, after describing the operation of the rotary lift the pamphlet goes on:

Services Described

THE under part of the car is then entirely exposed to the service man and he can turn the car around at will while working. The grease gun he uses is operated by compressed air. This is the power pneumatic grease gun built by the Alemite Lubricating Co. and is used by most of the larger greasing stations where thorough greasing is specialized in. The operator merely presses a button to deliver the grease in the bearing at about 2000 pounds pressure. Broken or lost fittings are replaced at the cost of the fitting only. It will surprise you to see the speed with which this most necessary service can be done without sacrificing thoroughness."

The company keeps track of the work on each car through a detailed job ticket, serially numbered, showing the date, name and address of the owner, make of car, and license number. Each particular job under the various services is listed with space opposite to write in the charge and another space for the check mark of the supervisor.

Under "Laundry Service" is given: washing open car, washing closed car, washing motor, polishing, simonizing, vacuum, dry cleaning, dressing top and removing road tar.

Under "Lubricating Service" is given: greasing, oiling springs, filling transmission, filling differential, filling wheel bearings, filling crank case.

Under "Tire Service": tire repair, tire change, tire sale, tube repair, tube sale, tire shoe, tire valve.

Under "Gas and Oil Service": gallons gasoline, gallons high test, quarts oil, and miscellaneous.

The car owner is given a stub bearing the same number as the job ticket, his name and address and the amount paid.

Centuries Old Pioneering Organization Joins Marland Oil Quest in Canada

By Paul Wagner
N. P. N. Staff Writer

PONCA CITY, Okla., Oct. 22. THE first large scale exploration of Canada's oil resources aside from explorations of Imperial Oil, Ltd., is being undertaken by the Hudson's Bay-Marland Oil Co., under joint arrangements between the E. W. Marland interests and the Hudson's Bay Co.

A domain, stretching from Calgary at the west to Winnipeg at the east, the North Saskatchewan river at the north and the United States boundary at the south, is affected by the exploratory contracts between the Marland interests and the historic Hudson's Bay Co.

The lands to be explored total some 7,000,000 acres in what is known as the fertile belt lying in the three prairie provinces, Alberta, Saskatchewan and Manitoba, and include Hudson's Bay Co. properties along the Rocky Mountain front in Alberta. The lands are scattered over an area extending approximately 750 miles from east to west and averaging perhaps 300 miles from north to south.

The Hudson's Bay Co. owns in this area, except where transfers have been made by it to colonists, one and three fourths sections of each township. These lands were retained when the company surrendered vast territory in British North America to the Canadian government in 1869. In lands conveyed to colonists, the company usually reserved mineral rights to itself.

All Lands Affected

BOTH the lands owned now by the Hudson's Bay Co., and the acreage sold to colonists with mineral reservations are affected by the Marland-Hudson's Bay exploratory agreement, with the exception of lands that were covered by earlier exploratory contracts with Imperial Oil, Ltd.

Under the present agreement the Hudson's Bay-Marland Oil Co. receives a five-year option on Hudson's Bay Co. acreage and mineral fee reservations for geological examinations and the selection of possible oil lands. No drilling is required to be done in the first two years, but one or more test wells must be drilled thereafter. A nominal rental on a per acre basis is provided for, the rentals to be paid on all lands retained after selections have been made.

Aside from geological examinations already under way no plans are being made for immediate development, and probably will not be made until the results of present investigations are available for determining a policy.

Born of adventure 256 years ago and built up through its maintenance of remote trading posts in the fur regions of the North, the Hudson's Bay Co. brings down to the time of its participation in oil industry affairs a wealth of tradition that is a fitting complement to the enterprise of those who seek to find and develop petroleum fields.

History records that John Cabot reached the shores of Canada and unfurled the royal banner of Henry VII on June 24, 1497, within three years after Columbus had reached the West Indies. It was not until 1652, however, that events happened which led to the chartering of the Hudson's Bay Co. by Charles II of England, on May 2, 1670.

Two Frenchmen, Radisson and Groseilliers who had been identified with the exploration and missionary activitity of de Champlain in Canada, played important parts in the drama that preceded the chartering of the Hudson's Bay Co., and thereby influenced the future history of what became the Dominion of Canada.

Sir William Schooling, K. B. E., who wrote a history of the Hudson's Bay Co., in connection with its 250th anniversary in 1920, stated that Pierre Radisson, as a boy of 17, underwent an experience in the spring of 1652 which was to prove the background for the company's eventual formation.

Radisson, while hunting, was captured by Indians, but displayed so much bravery that the tribal chief adopted him as a son. Radisson lived for two years as a member of the tribe.

Groseilliers was Radisson's brother-in-law. In Groseilliers, the historian relates, the trader instinct dominated the explorer instinct, while in Radisson love of exploration and adventure was more pronounced.

Radisson and Groseilliers traded and explored in the interior until 1658 when they made a third expedition as far as Lake Nipigon, where they wintered. Three years later, without the permission of the governor, they explored the northern shore of Lake Superior. On returning to Quebec, Groseilliers was imprisoned for illicit trading and the two partners were fined £10,000.

Chartered In 1670

CROSSING to France in a fruitless search for restitution, Radisson and Groseilliers finally interested Sir George Cartwright, one of the royal commissioners, who obtained for them an audience with the English king in 1666. Charles II promised them a ship and later the king's cousin, Prince Rupert, became the first governor of the Hudson's Bay Co., under the charter of 1670, which among other things gave the company powers to make laws, impose penalties and punishments, and to judge in all causes civil and criminal according to the laws of England.

Though modified in subsequent charters to suit changed conditions many of the regulations for the conduct of the Hudson's Bay Co. remain in many respects as they were in the reign of King Charles. Many of the original charter's more important conditions, however, were abrogated by agreement.

The trading charters of the days of King Charles are credited with being the best, if not the only, opportunity for the establishment of colonies under conditions then existing. That was before the system of limited liability companies had been invented and also at a time when a king could dispose of vast and unexplored territories virtually as he saw fit.

Many such chartered companies failed, or their charters were revoked for one reason or another, but the Hudson's Bay Co. endured. Although possessing privileges that could not be disputed by the law of the land, the Hudson's Bay and other chartered companies could not escape from the workings of economic laws. Their success depended upon efficient administrations and adaptations to new conditions. Thus it was that many failed and some surviyed.

The status and rights of the Hudson's Bay Co. were prominent in the conflicts with France in the 17th and 18th centuries; also the company's position was threatened by attacks made before the crown against its chartered rights, but it invariably came through its struggles unharmed.

Surrender Made to Canada

ON July 1, 1867, ten years after a Select Committee had recommended the transfer of part of the company's territory to Canada, a notable confederation of the scattered British provinces in North America was held. At that time there was set in motion the arrangement of terms whereby the Hudson's Bay Co. agreed, in 1869, "to surrender all the rights of government, property, etc., in Rupert's Land, and also similar rights in any other land . . . . . of British North America not comprising Rupert's Land, Canada or British Columbia."

Under the terms agreed on the Canadian government was to pay the company £300,000 sterling on the transfer of Rupert's Land to the dominion; the company was to retain its trading posts and stations with a block of land adjoining each, and to receive 1/20 of the land within the fertile belt, the limits of which were defined.

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(Continued from page 72)

showing of oil was met at 1,309 feet". Within one mile of this spot is a hot sulphureous spring yielding, according to Blatchford, 60,000 to 80,000 gallons an hour of mineralized water at a temperature from 112° to 114° Fahrenheit. The surrounding country is much faulted and dips at angles from 10° to 15°.

Besides the "Mt. Wynne bore", three "wildcats" at Price's Creek and one at Rough Range, no tests for oil have been made in Desert Basin. Artesian wells have, however, been sunk in several places. (For list of deep borings made for oil and water see table at foot of page 72.)

The insignificant nature of the oil indications in the several wells drilled, the apparent total absence of natural gas, uncertainty as to actual existence of any surface "indications", lack of shale cover, intense faulting and possible metamorphism of the marginal portions, prohibitive thickness of sandstone throughout enormous areas, and somewhat unsatisfactory source of origin are collectively considered unfavorable to the commercial occurrence of oil in Desert Basin.

Sales Manager Elected Director

ALLENTOWN, PA., Oct. 23.—Ed. A. Gallagher, Jr., who has been for the past year in charge of the gasoline and oil department of the Pennsylvania Independent Oil Co., Inc., of Allentown, has been elected a member of the board of directors, according to William R. Morell, secretary and treasurer.

Mr. Gallagher, who is widely known in oil jobbing circles in the east and middle west, was previously with the Union Petroleum Co. for several years, and later with the Sinclair Refining Co. Prior to his present connection, Mr. Gallagher was in charge of light oil sales for the Tiona Petroleum Co. at Philadelphia.

The Pennsylvania Independent Oil Co. operates a chain of service stations in eastern Pennsylvania. Officers are: James P. Culbertson, president; Francis J. Gildner, vice president; and Mr. Morell, secretary and treasurer.

Oil Well Supply Men Confer

TULSA, Oct. 23.—The Oil Well Supply Co. recently held a sales conference for the southwestern territory at St. Louis. E. E. Greve, chief engineer, and W. B. Glover, sales manager, Pittsburgh and J. D. Lemex, manager of the Tulsa office here, attended.

Texas Jobbers Change Meeting Date

SAN ANTONIO, TEX., Oct. 23.—The annual meeting of the Texas Independent Oil Men's Association at San Antonio will be held on Nov. 12 and 13. Because of a conflict with other meetings it has just been changed from Nov. 18 to 19 as originally scheduled.

Continued Excessive Rainfall in Indiana Territory Cuts Gasoline Sales

By J. C. Chatfield
N. P. N. Staff Writer

TULSA, Oct. 23.

RECENTLY newspaper readers of the United States were amused at a cartoon which depicted the march of the months of 1926. The cartoonist showed April with her unmbrella and galoshes in the line in her proper order between March and May. She had "horned into" the line three other times also, replacing July, August and September.

That is comedy, of course, to some folk, umbrella and raincoat manufacturers, for example; but it has been tragedy for refiners in the Mid-Continent.

Despite the extensive building of hard surfaced roads in the middle west there is nothing that can cut into gasoline gallonage so quickly as rain. Unseasonable cold will not do it. With most of the cars of the enclosed type and others equipped with side curtains that can be solved by a puzzle expert within 15 or 20 minutes, cold has no terrors for the motorist.

Normally refinery sales managers do most of their complaining about the weather in the spring. It really doesn't matter how early roads dry up, it is never early enough to suit the seller of gasoline in the Mid-Continent. This year the Mid-Continent refiner began to draw on his gasoline stocks to meet heavy orders in April and began to see a lessening in his demand in July.

July Rains Hurt Market

The present declining market for gasoline in the Mid-Continent field may be attributed almost solely to the heavy rains that have deluged the Middle West since the latter part of July. There is no element in the statistical position of refiners in the Mid-Continent which would cause the present prices which are below the cost of production with Mid-Continent crude at its present high level.

Unless there is a quick turn in the weather and an open late fall and winter it appears to be inevitable that Mid-Continent refiners will be forced to reduce runs of crude to their stills and hence their production of motor fuels. This is unfortunate at present when crude production is mounting at a rapid rate with the development of the Panhandle and Seminole fields.

Weekly Bulletin for Refiners

BEGINNING the first week of May this year the Western Petroleum Refiners Association began to gather weather reports from government sources covering conditions in 11 middle western states comprising most of the trade territory of the Mid-Continent. These states are North and South Dakota, Nebraska, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana and Ohio. H. K. Davis, statistician of the association, has compiled average weather conditions for these states by weeks and each week issues a bulletin showing normal or average temperature and precipitation as well as actual figures for the week. The bulletin covers 47 cities in detail.

Examination of these weather bulletins discloses that rainfall has been above normal every week since July 23. In May and June rainfall was above normal in the 11 states only two weeks, those ended June 18 and July 9.

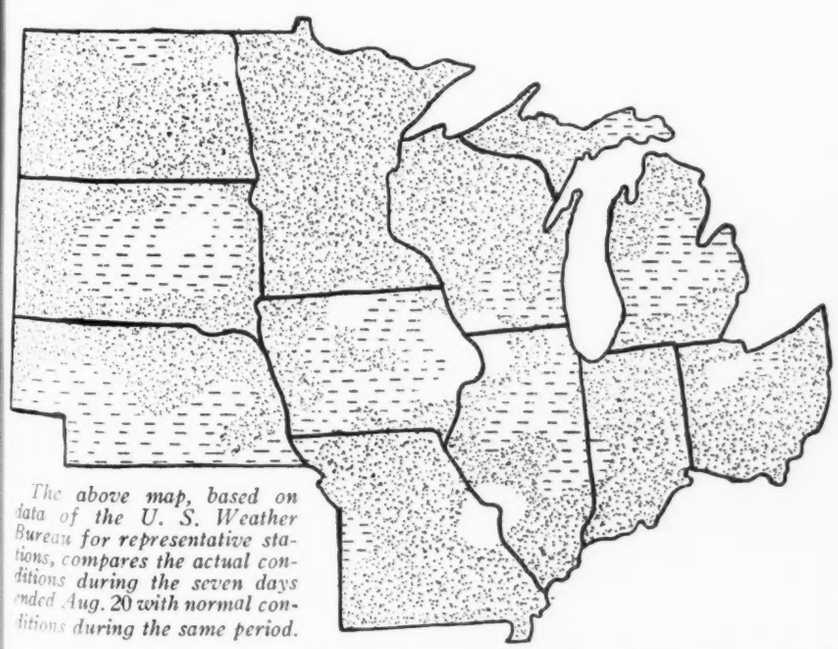
The association has issued so far 23 weekly bulletins of which 13 have shown rainfall greater than normal and 10 with rain below normal. During the last 11 weeks the rainfall has averaged 0.33 inches a week above normal. In two of the 11 weeks the rainfall was 0.87 inches above normal.

Fig. 1, map of the 11 states shows the condition of the weather for the week ended Aug. 20, one of the worst weeks in the late summer and early fall. The rainfall that week was above normal in about 90 per cent of the territory.

Gasoline Shipments Charted

TO observe the effects of excessive rains on refinery operations in the Mid-Continent the writer has prepared Fig. 2, a chart in which shipments of gasoline from 69 refineries in Oklahoma and Kansas have been plotted against rainfall in the 11 states. The 69 refineries are those which give National Petroleum News weekly operating reports. Oklahoma and Kansas refineries were used instead of the entire field because so much of the gasoline output of refineries in north Texas and north Louisiana and Arkansas moves to territory other than the 11 states of which weather records have been kept.

Total gasoline shipments of the 69 plants have been averaged and found to



The above map, based on data of the U. S. Weather Bureau for representative stations, compares the actual conditions during the seven days ended Aug. 20 with normal conditions during the same period.

LEGEND

Temperature	Precipitation
Above Normal	More than Normal
Above Normal	Less than Normal
Above Normal	About Normal
Below Normal	More than Normal
Below Normal	Less than Normal
Below Normal	About Noraml
About Normal	More than Normal
About Normal	Less than Normal
About Noraml	About Normal

Fig. 1. Weather map for week ended Aug. 20, 1926, as issued by the Western Petroleum Refiners Association.

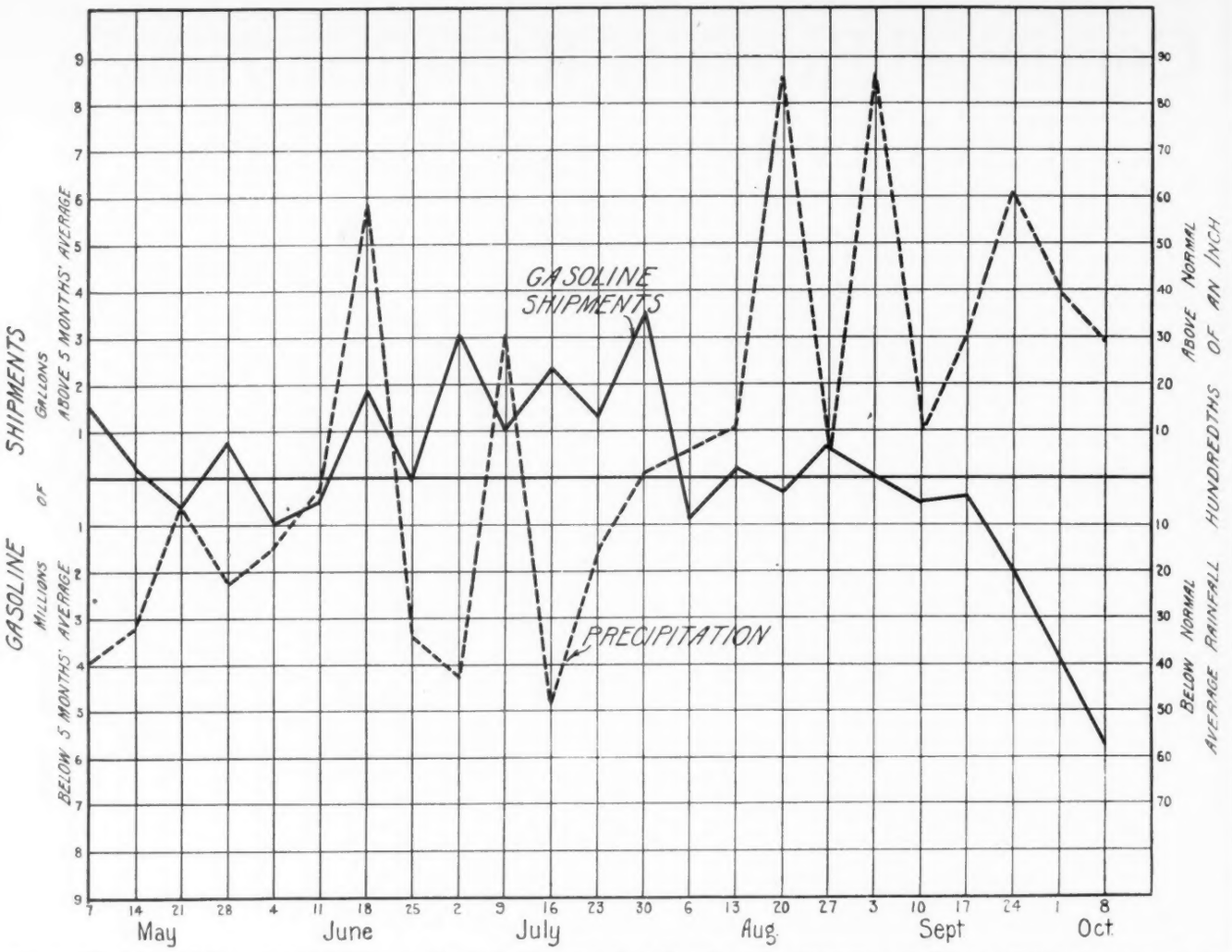


Fig. 2. Effect of rainfall in all Central states on shipments of gasoline from 69 refineries in Oklahoma and Kansas. Dotted line shows average rainfall at 47 cities above or below normal during five months. Solid line shows gasoline shipments above or below average for the entire five months' period.

have been 25,287,000 gallons a week. This amount has been assumed as a normal volume for the five month period considered. Actually the normal volume probably would be somewhat above that level were it not for the recent heavy rains but it is the nearest to normal that can be calculated.

Rainfall has been plotted above and below the normal line by weeks in one hundredths of an inch and gasoline shipments have been plotted in millions of gallons above and below normal.

In studying the map it should be remembered that rainfall is not the only factor that affects shipments of gasoline. Another important factor is the judgment of buyers as to the state of the market.

It will be observed, however, that the volume of rainfall in Standard Oil Co. of Indiana, and adjacent marketing territory has an unmistakable effect on gasoline shipments. For example gasoline shipments fell nearly 2,000,000 gallons during the week ended June 25 as a result of the heavy rains in the week ended June 18 which averaged 0.57 inches above normal at the 47 cities.

The effect is shown more impressively since July 23. Since that date shipments have been below normal every week except two and those two weeks were less than a million gallons above normal. The fall in shipments has been most extreme since Sept. 17, showing the cumulative effect of a long period of rain.

September Usually Good Month

IT might be argued that shipments should normally fall during September. Examination of refining statistics shows that ordinarily September is a month of large shipments, which usually are only a little smaller than those of August.

In 1925 during the four weeks ended July 31, the 69 Oklahoma and Kansas refineries shipped 100,648,207 gallons of gasoline. In four weeks of August they shipped 95,576,376 gallons and in September the peak shipments were reached amounting to 102,905,549 gallons.

This year in the four weeks ended July 30, the same group of plants shipped 109,408,346 gallons. In the next four weeks shipments fell to 100,890,258 gallons. In the four weeks ended Sept. 24, total shipments were down to 98,330,353 gallons, a volume which is 4,600,000 gallons less than in the corresponding weeks last year.

For the 23 weeks ended Oct. 8, total shipments of gasoline from the 69 plants exceeded those during the same period the previous year by only 4.8 per cent. Bureau of Mines reports for the eight months ended Aug. 31, show that all refineries in the Mid-Continent shipped 44,395,000 barrels of gasoline, an increase of 3 per cent over the same eight months of 1925 when total shipments were 43,100,000 barrels.

Ethyl on Sale in Oklahoma

TULSA, Oct. 23.—Ethyl made her first appearance in Oklahoma recently. The Continental Oil Co. began to sell Ethyl gasoline at its Tulsa stations Oct. 6. Later it will offer the gasoline at other stations in Oklahoma. The company has a contract giving it the exclusive right to sell the motor fuel in Oklahoma.

CLEVELAND, O.—Roscoe McQuaid recently was made district foreman for the Wiser Oil Co. in the Indiana-Illinois district. He succeeds the late Charles G. Larson. Mr. McQuaid previously had been in charge of the company's properties in the Birds, Ill., district.

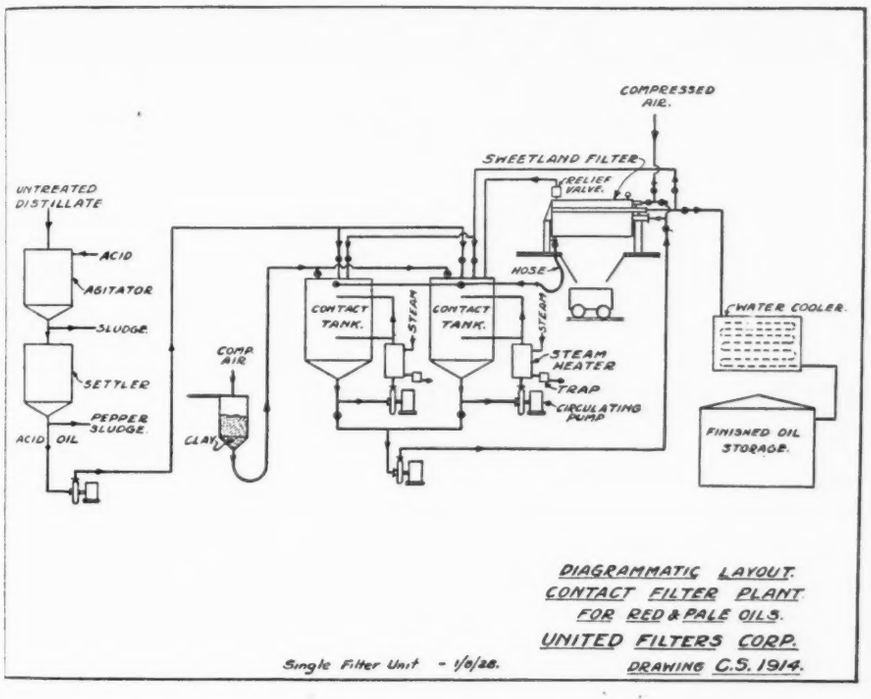
WICHITA FALLS, TEX.—The Omar Gasoline Co. has just completed the installation of a stabilizer at its plant in the Burkburnett field, according to G. A. Ritnour, manager.

New Equipment for Plant Improvement

Personal Notes of the Manufacturers

National Petroleum News

United Filters Puts Out Complete Treatise on Contact Filtering



THE United Filters Corp., Hazleton, Pa., has put out a very complete treatise on the contact process for filtering gasoline, kerosene and lubricating oils which is illustrated with drawings and photographs. The bulletin is entitled "Modern Filtration Methods in the Petroleum Industry."

Beginning with the history of contact filtration, the bulletin goes on to point out that the development of the Sweetland filter was begun in 1918 and that the United Filters Corp. engineers have been working ever since in cooperation with the refiners toward making the filter more and more efficient in connection with contact systems. More than 100 refineries now are using the Sweetland filter for separating the oil from the fine clay used in contact filtering the bulletin says.

A full description of the contact process as used both with neutral and sour oils is given and the ideal layout for contact filtering plants for use with light oils and with lubricating oils are shown. Contact tanks, heating units, clay handling apparatus, filter feed pump and even the source of compressed air and the cooling of the filtrate are discussed in the bulletin.

The author goes into comparative costs and results of the contact filtering system and the percolating type. It is in short, a complete discussion of contact filtering in all phases and should prove interesting and valuable to anyone interested in the filtering of oils.

Skelly Man Seeks Patent On Special Casinghead

CLEVELAND, O.—J. O. Peak, of Borger, Texas, production foreman for the Skelly Oil Co., has applied for patent on a two-way casinghead top to be used in connection with a method of keeping casing and tubing free from paraffin, which is a source of considerable trouble in the Amarillo district. This casinghead is designed for use with two strings of tubing, one being a 1-inch steam line 500 feet long.

Mr. Peak's resourcefulness was brought into service about two years ago when he installed a wind motor to supply water for a lease of which he had charge. Since the windmill was put into service it has run day and night with no expense other than the cost of one and one-half gallons of motor oil. It pumps a well 235 feet deep using 2-inch tubing and 1¼-inch wooden sucker rods.

* * *

Cities Service Buys 60 Cars

NEW YORK, Oct. 23.—The Cities Service Tank Line Co. has purchased 60 insulated tank cars each of 8000 gallons capacity, which will be used by the Empire Gasoline Co. for transporting natural gasoline. These new cars are equipped with copper bearing steel tanks. The American Car & Foundry Co. is building 30 of the cars and the General American Tank Car Co. the other 30.

* * *

Power Specialty Co., New York, has opened a branch office in the Security Bldg., Milwaukee, Wisc. The company handles Foster convection and Radiant heat superheaters, economizers and water cooled furnaces, and the Aero unit coal pulverizer.

* * *

The Ehrlich Safe & Lock Co., Chicago, has sold and transferred all patent rights, stock and good will to the Kewanee Safe Co., Kewanee, Ill. B. F. Baker, vice president and treasurer of the Kewanee Boiler Co., will be president of the Kewanee Safe Co. R. B. Glidden, will be secretary and treasurer, and Daniel Bauer, vice president, both of whom are with the Kewanee Implement Co. Manufacture of the safe on a volume basis with a few minor improvements, will begin at once, and the name of the safe will be changed to Kewanee.

* * *

LOUISVILLE, KY.—Stoll Oil Refining Co. of this city recently placed an order with the Henry Vogt Machine Co., Louisville, for an additional 250 filter plate wax press which will be installed at the Stoll refinery here, according to William A. Stoll, treasurer.

* * *

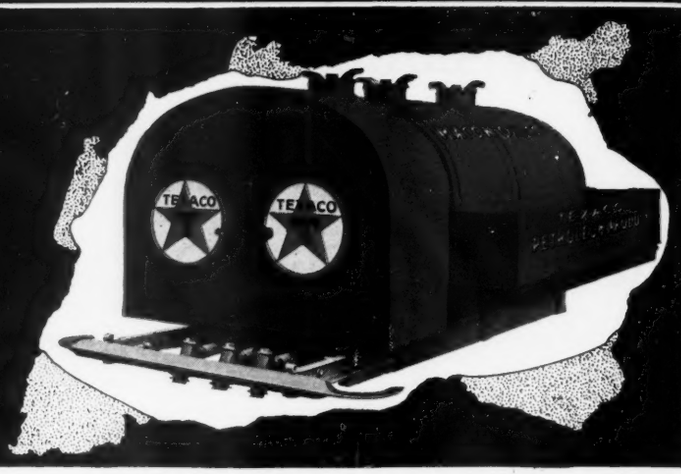
KARNS CITY, PA.—The Starlight Refining Co., Ltd., with refinery here, is planning to double its capacity for manufacturing petrolatum by early spring, according to W. J. Anderson, president. This will be done to give better service to customers.

* * *

EAST CHICAGO, IND.—Three Jenkins high pressure cracking stills have recently been ordered by the Skelly Oil Co., El Dorado, Kans. from the Graver Corp., with headquarters here. These will be operated in connection with the six low pressure units the Skelly now has.

Leader

TRUCK TANKS



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Guaranteed 100% PURE PENNSYLVANIA OIL

PENNSYLVANIA-PETROLEUM-PRODUCTS-PURE

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New Oil Station Construction

National Petroleum News

Lorain, O.—The Peerless Oil Co., Elyria, O., is completing service station here which will be equipped with 20 outlets for gasoline, according to J. Ray Chappel, manager. Station will be opened about Nov. 15.

* * *

Galveston, Tex.—Oleander Oil Co. is completing bulk station at Beaumont, Tex., to open Nov. 1. Bulk station will also be erected at Galveston, according to J. K. Sullivan, president.

* * *

Ashtabula, O.—H. D. Cook, proprietor of the Central Standard Service Stations here, is building filling station at Euclid Av. and London Rd., Cleveland.

* * *

Marysville, O.—W. J. Scheiderer, coal yard operator here, will install storage tanks for petroleum products, handling Penn Oil Co. products.

* * *

Sullivan, Mo.—Shaffer & Williams Oil Co. is building one bulk and 15 service stations here, according to J. T. Williams, manager.

* * *

Port Jervis, N. Y.—Port Jervis Gasoline & Oil Co., Inc., is building service station here, according to George W. Case, Treasurer.

* * *

Stillwater, Okla.—Federal Petroleum Co. purchased lots for filling station, W. D. Fugatt, president, has announced.

* * *

Richmond, Mo.—Coleridge Binns purchased site for filling station, to handle Skelly Oil Co.'s products.

* * *

San Antonio, Tex.—H. J. Niemeyer, 211 Drexel Ave., is building three service stations here.

* * *

Little Rock, Ark.—A. A. Protho to erect $3,000 filling station at Prospect Ave.

* * *

New Lexington, O.—Standard Oil Co. of Ohio plans to erect filling station here.

* * *

Wynne, Ark.—Magnolia Petroleum Co. is completing bulk station here.

* * *

Wahpeton, N. D.—The Texas Co. will build two service stations here.

* * *

Middletown, O.—Palmco Oil Co. building filling station.

* * *

Youngstown, O.—Lyden Oil Co. will erect filling station.

* * *

Allison, Ia.—William Pals completing filling station.

Niagara Falls, N. Y.—Simon Oil Co. is building a bulk and service station here, also garage for trucks. 80,000 gallons storage is being installed now, according to David Dimet, manager.

* * *

Portsmouth, O.—Buildings will be erected at Gallia and Offnere Sts., which will include filling station, to be operated by R. R. Mittendorf, proprietor of the Pioneer Oil Station here.

* * *

Fayetteville, Tex.—William Jacob, filling station operator of Burton, Tex., purchased property here for filling station and garage at Fayetteville.

* * *

Oneida, N. Y.—E. H. Clayton, Box 214, distributor for the Deyo Oil Co., Inc., of Binghamton, N. Y., is building bulk station at Oneida.

* * *

Morrilton, Ark.—J. W. Dilbeck, agent for the Magnolia Petroleum Co. here, is building one bulk and two service stations here.

* * *

Buckhannon, W. Va.—Buckhannon Oil Co. to build one bulk and service station at fair grounds, west of Buckhannon.

* * *

Canadian, Tex.—Alex Simpson, agent here for Pierce Petroleum Corp., is erecting service station.

* * *

Kansas City, Kan.—Winters Oil Co. will erect filling station here, at 26th and Metropolitan Aves.

* * *

Paterson, N. J.—William J. and Mrs. Catherine Dean to erect filling station on Grand St.

* * *

Fort Dodge, Ia.—Community Service Station purchased property for filling station.

* * *

Norfolk, Neb.—Continental Oil Co., Denver, is erecting filling station here.

* * *

Council Bluffs, Ia.—MonaMotor Oil Co. completing filling station here.

* * *

Pine Bluff, Ark.—Magnolia Petroleum Co. to build service station.

* * *

Eagle River, Wisc.—Art DeNoyer building filling station.

* * *

Hudson, S. D.—James McVay is completing filling station.

* * *

Burke, S. D.—George Gudge completing filling station.

Hyannis, Mass.—Cape Cod Oil Co. is building two bulk and four service stations, two here and one each at Marion and Sagamore, according to E. W. Gould, Jr. treasurer. Company is Tydol and Veedol distributor here.

* * *

Fort Smith, Ark.—High Test Oil Corp. will erect two service stations soon, one at Fort Smith and one in Van Buren, Ark., according to O. D. Caton, manager.

* * *

Rochester, N. Y.—Frank J. Rohr Co. is building three service stations here, reports F. J. Rohr. This will give the company nine service stations.

* * *

Shattuck, Okla.—Service station is being erected 10 miles south of Shattuck by W. C. Quindt, agent for the Pierce Petroleum Corp.

* * *

Higgins, Tex.—Roy Landers, Box 162, agent here for the Pierce Petroleum Corp., is building service station at Lipscomb, Tex.

* * *

Rockwall, Tex.—Magnolia Petroleum Co. is building service station here, according to H. DeWeese, agent for the company here.

* * *

Portsmouth, O.—Refiners Oil Co. Dayton, O., erecting service station at Sixth and Gay Sts. here.

* * *

Kenton, O.—B. F. Wable will erect filling station on Bellefontaine Pike, four miles south of Kenton.

* * *

Hinckley, Minn.—Standard Oil Co. of Indiana purchased property for filling station.

* * *

Marion, Ia.—Standard Oil Co. of Indiana purchased property for filling station.

* * *

Sherman, Tex.—M. N. Fain and B. M. White each building filling station here.

* * *

Davenport, Ia.—Mueller-Blankenburg Co., tire dealer, to erect filling station.

* * *

Burlington, Ia.—Roxana Petroleum Corp. seeks permit for filling station.

* * *

Terrell, Tex.—Alderson Motor Co. is building service station here.

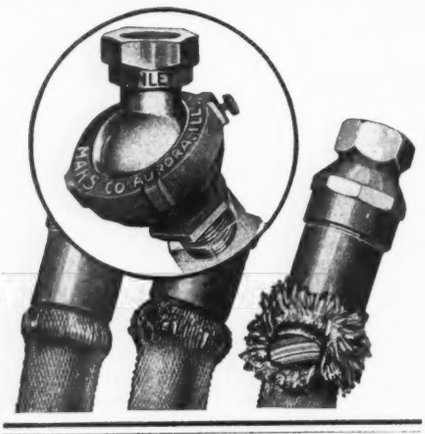
* * *

Brownfield, Tex.—A. M. Brownfield is building filling station.

* * *

Braman, Okla.—Holt Bros. erecting filling station.

MARS Ball and Socket Swivel



Provide and protect your Gasoline Hose. Saves hose, time, money and a lot of trouble on all types of Pumps.

MARS Ball and Socket goes with the operator—to the right or left, high or low, or what not. These features you must have to get 100% efficiency.

The hose being flexible at Pump connection—better handling and Service.

MARS recommended by pump Manufacturers and Oil Jobbers.

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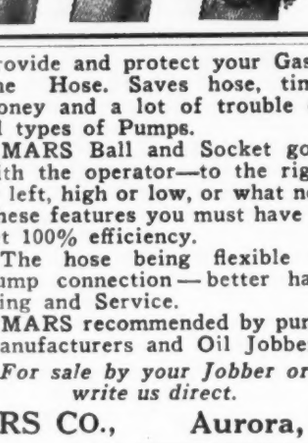

Patent Pending

MORE OIL SALES

With oil displayed in this Rack holding 24 Dispensers. Has hinged caps covering each spout. All Bottle trays removable. The Neatest and Best Rack on the market.

Send for Particulars

Wm. Neil & Co.

617 W. Division St. Chicago, Ill.

Valuable Results are Obtained By Putting Gas into Sand

TULSA, Oct. 23.

WHAT happens when an oil reservoir rock is tapped by the drill? First, there is a release in pressure. Then, following this release, oil is vaporized and a tiny bubble of gas is formed. This bubble is enclosed by a film of oil. It starts on its travel to the well opening. On the way it has to work its way through the space between sand grains. The bubble is broken into smaller bubbles. Like the amoeba, they multiply by dividing.

In time, what with further vaporization of the oil films and separation by sand grains, each original bubble has become a legion and all are rushing into the well.

"In the case of a new well they lighten the weight of the column of fluid and actually furnish the energy necessary to make it flow. As time goes on the number of bubbles decreases for the supply is limited, and soon there are not enough to furnish this energy. The well then becomes a pumper, these bubbles bursting and rising to the surface as casing-head gas. Later, as the supply of easily vaporized hydrocarbons is depleted, we find our differential in pressure so equally balanced by the sand resistance as to permit of only the most meager travel of oil into the hole. The general result of this condition is abandonment of the well."

Thus, L. L. Brundred, of the National Supply Co.'s Houston, Tex., offices, in his paper on "Theories of Normal Production and Theories of Methods of Introducing Gas and Air to Increase Normal Recovery." This was read at the meeting of the Petroleum Division, A. I. M. E., held in Tulsa, Oct. 11-12.

Passing from the part of his paper wherein he described the various types of strata in which oil is found and the theoretical explanation of the behavior of oil and gas under conditions of production, Mr. Brundred took the theories into the field. Said he:

Solubility of Gas In Oil

"THE question is often asked, 'How is it determined that we are producing only 15, 18 or 20 per cent of oil originally contained in the sand?' This is usually arrived at by a computation based in general, on porosity, density, saturation, etc. In support of these figures we could consider the solubility of gas into oil.

"Recently, one of the major producing companies conducted an exhaustive test as to the solubility of wet gas, dry gas, and air into a given grade of oil, taking for the experiment, oil and gas directly from one of their flowing wells. A testing apparatus capable of withstanding pressures as high as 3000 pounds per square inch was erected in the laboratory and the results carefully tabulated. Suffice it to say that the general results showed as follows:

(a) That wet gas was decidedly soluble in oil.

(b) That dry gas was less soluble.

(c) That air was the least soluble.

"Specifically, at 1200 pounds pressure, it was found that approximately 350 cu. ft. of wet gas was soluble in this oil, whereas at 150 pounds pressure but 50 cu. ft. went into solution.

"It had previously been determined in the field that an average of 1750 cu. ft. of gas was being utilized in producing each barrel of oil, and it seemed to matter little whether the well considered was flowing or pumping.

"Now let us consider a theoretical well producing with a rock pressure of 1200 pounds. Each barrel of oil contains but 350 cu. ft. of wet gas. If we utilize 1750 cu. ft. in producing this barrel, of necessity we are wasting 1400 cu. ft. As the only source of this gas is the oil itself and as all these barrels left in the sand contain but 350 cu. ft. each, it will be readily seen that we have actually completely robbed 3.7 barrels of all available gas.

"Now, let us consider the same well after the rock pressure has been reduced to 150 pounds. The oil then contains but 50 cu. ft. of wet gas. It must now be apparent that the waste has mounted to 1700 cu. ft. Yet, as the oil left in the sand at this reduced rock pressure contains only 50 cu. ft. it must be noted that this robbing process has rapidly increased, until now we have completely depleted 34 barrels of all available gas. Small wonder it is then, that we leave enormous quantities of unrecoverable oil in the sand.

Ratio of Gas to Oil Important

"TO date only a few of the most progressive companies have paid more than passing attention to the amount of gas or energy wasted in producing a barrel of oil. Needless to say, the amount of easily vaporized fluid (gas) available in the sand is extremely limited and, if the assumptions given are correct, such waste constitutes ample reason for urging extreme conservation of this vital asset.

Findings

(A) Examination of Cores. This discloses that:

1—Few solid bodies of pay sand exist without breaks.

2—Often water and gas strata are interspersed with saturated oil sands.

3—Lenticular sands are commonly found.

4—Cross bedded and fractured sands are also commonly found.

5—Cementing material varies greatly in the different strata.

6—Porosity and saturation can be de-

termined with a fair degree of accuracy.

7—Fairly uniform saturation in any given stratum is the rule.

8—There can be little vertical travel of gas, water or oil from one stratum to another.

(B) Condition of Gas: The bulk of gas contained in an oil producing reservoir is in a liquid state.

(C) Productive Energy: Vaporization of the lighter hydrocarbons furnishe the motive power to produce the oil.

(D) Solubility of Gas: Solubility of gas into oil is an established fact.

(E) Normal Recovery: Only inefficient recovery can be expected from present producing methods and waste of gas must be prevented."

In summing up his statements on the re-introduction of gas into oil after the oil has once been robbed of its gas, Mr. Brundred said:

"When dry gas is introduced into a sand where intimate contact with the oil takes place, there can be little doubt that it goes into solution, later expanding and performing its duty of bringing oil into the surrounding wells, and thus picks up gasoline vapors which may be extracted in a gasoline plant. The dry gas now converted into a set gas will be found to contain very nearly the same gasoline content as the original natural wet gas.

A Pennsylvania Experiment

"IN support of this statement, there is an old property in Pennsylvania upon which a gasoline plant had ceased to be profitable, due to the serious depletion of their source of supply of wet gas. An experiment was attempted whereby natural dry gas was purchased from one of the public service gas companies at 60 cents per thousand feet and injected into the sand through one of the old producing wells. Soon it was found that the normal oil production and the supply of wet gas had gradually increased until the gasoline plant became an asset instead of a liability. Today this company finds itself with almost enough gas for constant circulation and the necessity of purchase of the expensive natural gas has practically disappeared."

Empire Sales Heads Confer

TULSA, Oct. 23.—Branch office managers for the Empire Refineries, Inc., met here today for a three-day conference with O. J. Tuttle, sales manager, and C. A. Willis, assistant sales manager. The branch managers are C. A. Beach, Chicago; J. R. Trollinger, St. Paul; R. A. Bertzel, Kansas City; H. F. Gay, St. Louis; C. W. Fulkerson, Atlanta, and E. C. Steffy, Tulsa.

Texhoma Is Now Continental

WICHITA FALLS, Oct 23.—On Oct. 5 the name of the Texhoma Oil & Refining Co., which some time ago was acquired by the Continental Oil Co., was changed to the Continental Oil Co. of Texas, Sales Manager Lawson has notified the oil trade.

Heil 1000 gallon, semi-elliptical, 4 compartment truck tank mounted on a 196" wheelbase Mack Bus chassis. Compartments from front to rear are 500-200-150-150.

HEIL BUS TANKS are Business Builders

THERE is a decided swing in the direction of better looking and better built truck tanks. Something is desired that will give a longer life of service and at the same time be a high class advertising medium. Heil compartment tanks such as the Badger Oil Co. job shown on this page have answered the demand. Beautiful body lines with a long graceful sweep from the hood to the can-box bring out the massiveness of a truck tank to the highest value-point of attraction. Autoists remember the tank as it rolls along the highways, remember the name of the oil jobber, and best of all, remember where to buy their next fill of gas. You are getting more than a truck tank when you specify Heil, you are getting the best advertising medium possible for your products.

Please send the coupon to Heil Today.
It will bring you the Heil Tank Catalog.

THE HEIL CO.

1138-50 26th Avenue Milwaukee, Wisconsin
Factory Branches: CHICAGO, PHILADELPHIA, BOSTON, NEW YORK

SEND THIS COUPON TO HEIL TODAY

THE HEIL COMPANY, 1138-50 26th Ave., Milwaukee, Wisconsin

Please send me a copy of your Tank Catalog including Bulletin 157 on Standardized Tanks for light weight trucks.

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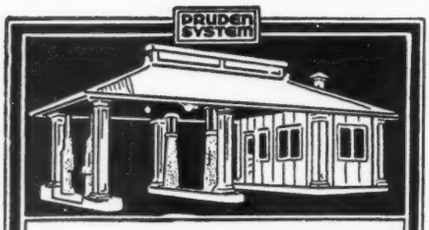


Low Overhead

means more profits for you.

You can keep your "overhead" down to the minimum with **PRUDEN SYSTEM** all-steel buildings.

They cost about a third as much as brick buildings giving the same service.

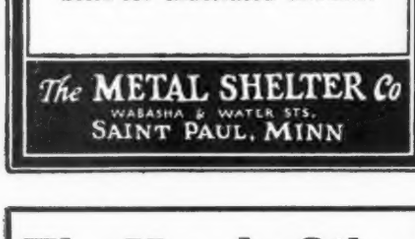
They are quickly erected, enabling you to be doing business in them long before another type of station could be built.

They can be easily taken down and re-erected, if you ever want to change your location.

Send for illustrated circular.

The METAL SHELTER Co
WABASHA & WATER STS.
SAINT PAUL, MINN

The Handy Oiler



THE public today demands that you give them quick, clean service. This you can do by dispensing your lubricating oils with Handy Oilers, and improve the most valuable asset to your business, "Service".

Handy Oilers are marked to pass the inspection of the Division of Weights and Measures in each state where sold.

These prices are subject to the regular discounts.

LIST PRICES

Complete Outfit	$10.00
Handy Oiler Container and Spout	1.00
Basket	2.50
Metal Spout and Breather Pipe	.60
Glass Container Only	.45
Gasket	.05
Dust Cap	.10

Manufactured by

Handy Oiler Co.

Danville, Indiana

Purchase from your jobber if possible. If he will not supply you, we will ship direct.

Here & There

National Petroleum News

Malcolm S. Jones, who was formerly New England district manager for the Sun Oil Co., Philadelphia, became associated on June 1 with the Galena-Signal Oil Co. of Texas, and is now district sales manager of the Galtex Sales Corp. in charge of distribution and sale of Galtex motor oils in New England. Mr. Jones' headquarters are at Cambridge, Mass. He is an associate member of the Independent Oil Men's Association of New England.

* * *

Ira A. Smith, manager of the Tulsa office of the Standard Oil Co. of Indiana, and Mrs. Smith have just moved into their recently completed home on Louisville Ave., Tulsa. Mr. Smith purchased an entire block between 36th and 37th Sts., and declares he intends to raise fancy chickens and have a garden.

* * *

Tom Alford of the Transcontinental Oil Co. sales department, has suffered almost all summer and fall with a badly infected foot which stubbornly refuses to heal. His twin sons, Howard and Howell, have each had pneumonia, but are now convalescent.

* * *

Victor H. Smith, vice president and general manager of the North American Car Co. and in charge of the Tulsa office, left Thursday for New York whence he will sail for Europe on business for his company.

* * *

J. T. Williams, manager of Shaffer & Williams Oil Co., Sullivan, Mo., recently returned from the four states jobbers convention at Kansas City. He reports the meeting well worth the time and money.

* * *

R. A. McCornack, president of Refiners Petroleum Co., Chicago, and E. C. Cooper, president of the Elmore Oil Co., Sycamore, Ill., are members of a party hunting in the Black hills of South Dakota.

* * *

M. F. Lackey, formerly of Little Rock, Ark., has been appointed manager of the Dallas, Tex. offices of the Pierce Petroleum Corp., St. Louis.

* * *

Fred W. Cordell, manager of the Cordell Oil Co., Rogers, Ark., is spending a few weeks at Holdenville and Tulsa, Okla. Mr. Cordell is accompanied by Mrs. Cordell and two sons.

* * *

David Dimet, manager and brother of the owner of Simon Oil Co., Niagara Falls, N. Y., has left on a trip to Philadelphia, Atlantic City and a two weeks' stay in New York.

Recent changes on the staff of Producers & Refiners Corp., Denver, include the appointment of P. V. Wheeler as division sales agent with headquarters at Tulsa; Brown L. Meece, division sales agent at Chicago; C. P. Cannon, manager of the lubricating oil division of the sales department, Denver; and A. T. Smith, assistant general sales manager, Denver.

* * *

L. W. Scott, who was formerly with the North American Oil Co., has become manager of the nearly completed bulk station of The Refiners Oil Co. at Mansfield, O. The Refiners company has its headquarters at Dayton, O.

* * *

W. I. Swink, manager of Imboden, Ark. station of Belford & Roe Oil Co., has returned from a vacation spent in Illinois, Indiana, and Kentucky. Mr. Swink was accompanied by Mrs. Swink and son, Billie J.

* * *

H. G. Triplett, manager of the Sterling Oil Co., St. Marys, W Va., is away on a trip through Virginia and North Carolina, for the purpose of closing several connections with jobbers to handle Sterling oils.

* * *

Elbridge Adams, who since leaving Williams College in 1920, has engaged in various branches of the oil industry, has now taken a permanent position with the Panhard Oil Corp., at New York City.

* * *

William V. Hughes, president of the Hughes Oil Co., Glendive, Mont., who resides at Evanston, Ill., is expected to make an inspection trip to the Montana and North Dakota properties of the company soon.

* * *

S. F. Shaw, consulting gas-lift engineer of San Antonio, Tex., has been engaged for the next two months by the Carter Oil Co. to design gas lifts for their wells in the Seminole field, Okla.

* * *

A. E. Halverson, who has been assistant to the general sales manager of Imperial Oil, Ltd., in western divisions at Winnipeg, has been transferred to Toronto in the same capacity.

* * *

E. E. Clary, agent at Trenton, N. J. for the Gulf Refining Co., Pittsburgh, Pa. is on a two weeks' vacation, a part of which will be spent in the mountains near Altoona and Pittsburgh.

* * *

Guy and Stonie Davis of the C & D Filling Station Co., Bentonville and Rogers, Ark., recently returned from a visit to Detroit and Canadian points.

8,265,305 Bbls. Shipped From Los Angeles

LOS ANGELES, Oct. 22.—During September, a total of 8,265,305 barrels of crude oil and other petroleum products was shipped out of Los Angeles Harbor, crude oil reaching a total of 3,265,305 barrels.

All products shipped out of Los Angeles Harbor to all points the first nine months of 1926 reached 80,726,012 barrels, of which 32,546,089 barrels were crude, 28,435,746 barrels fuel, and 13,680,592 barrels gasoline.

During September, the Atlantic domestic trade drew 723,230 barrels of crude, 412,850 barrels of fuel, 481,582 barrels of gasoline, 156,347 barrels of Diesel oil and 323,035 barrels of tops. Atlantic foreign ports drew 438,204 barrels of crude, 728,116 barrels of fuel, 427,504 barrels of gasoline, 38,835 barrels of Deisel, 96,551 barrels of distillate and 27,075 barrels of tops.

The other shipments went to Pacific domestic and foreign ports.

2,000,000-Foot Gas Well In Mississippi

Staff Special

TULSA, Oct. 22.—A well in Monroe county, Miss., is showing for about 2,000,000 cubic feet of gas, attracting much attention, especially among oil men of north Louisiana and Arkansas, it is reported here today. The well is that of the Amory Oil Co. in Sec. 7-13S-17W. Total depth is reported to be 2462 feet in the Trenton formation. The sand has just been touched, according to operators, and the well is blowing off while its owners try to decide what to do about it. It was drilled with cable tools, and has been drilling since about the first of this year.

The Amory Oil Co. owns a block of about 5000 acres around the well. The company is made up principally of local men from Tupelo and Amory, Miss. Stock has been sold in a number of nearby counties.

Wisconsin Jobbers to Meet Nov. 11

CHICAGO, Oct. 23.—The Wisconsin Independent Oil Jobbers Association will hold its next meeting Nov. 11 in the assembly chamber in the capitol at Madison.

The Madison meeting will be held, jointly with the state department of weights and measures and pumps, oil measures, tank wagon buckets and milk cans will be discussed.

The oil men will have luncheon at the Park hotel that day. Ralph W. Smith, United States Bureau of Standards, and F. H. Emig, Cardinal Petroleum Co., Muskegon, Mich., are to speak.

MITCHELL, NEB.—H. E. Fry has opened a bulk station at Lyman, Neb.

The Big Reason

Gentlemen:
I used ECO service at a station in Little Rock the other day. It certainly is wonderful. Please send me literature so I can get one of our filling stations here to put it in.
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One man with ECO can fill tires faster than two men without ECO. Thus ECO makes it easy for a driver to fill his own tires when attendants are busy at the gas and oil pumps. Get the advantage of ECO service. Put ECO to work at all your stations. Equip your present air towers with ECO Automatic Inflators. And specify ECO for all new stations.

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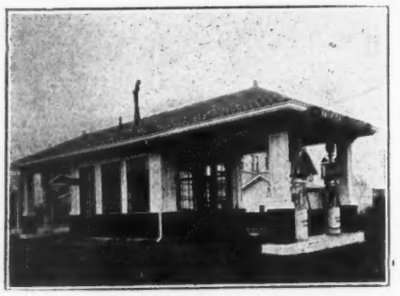

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Oil Patents Issued Recently

Production

Swab Regulator.—Earl John Broberg, Coffeyville, Kans., assignor to Robinson Packer Co., Tulsa, Okla. Filed May 15, 1923. No. 1,601,714.

Packing for Pump Plungers.—George Christenson, North Plainfield, N. J., assignor to Johns-Manville, Inc., New York, N. Y. Filed Jan. 24, 1925. No. 1,601,720.

Polish-Rod Guide.—Richard Brannon, Breckenridge, Tex. Filed June 14, 1926. No. 1,601,847.

Bit.—Elmer E. Davis, Cisco, Tex. Filed Oct. 6, 1922. No. 1,601,855.

Gas Anchor for Oil Wells.—Clifford T. McCoy, Torrance, Calif., assignor of one-fourth to Norman E. Conklin and one-fourth to Ralph B. Blodget, both of Los Angeles, Calif. Filed Feb. 19, 1925. No. 1,601,921.

Standing-Valve Puller.—Jule C. Axelson, Los Angeles, Calif., assignor to Axelson Machine Co. Filed July 25, 1925. No. 1,601,964.

Tubing Catcher.—Fred C. Goldsmith, Houston, Tex., assignor to W-K-M Co., Houston, Tex. Filed May 20, 1926. No. 1,602,011.

Fluid-Flow-Controlling Device.—Charles S. McCarthy, Long Beach, Calif. Filed Oct. 27, 1924. No. 1,602,033.

Releasable Slip-Socket Fishing Tool—James B. Triplett, Long Beach, Calif. Filed Sept. 2, 1924. No. 1,602,134.

Method of Dehydrating Petroleum Emulsions.—Harold C. Eddy, Los Angeles, Calif., and Gordon B. Hanson, Houston, Tex., assignors to Petroleum Rectifying Co. of California, Los Angeles, Calif. Filed Jan. 4, 1926. No. 1,602,190.

Pitman Bearing for Oil Derricks.—Owen D. Masterson, Tupman, Calif., assignor of one-third to Frank Finwick, Bakersfield, Calif. Filed May 21, 1925. No. 1, 602,694.

Cylinder Protector.—Albert B. Mueller, Runge, Texas. Filed July 5, 1923. No. 1,602,773.

Means for Testing or Operating Oil Wells.—Hampton Adams Steele, Lawton, Okla. Filed Feb. 13, 1926. No. 1,602,864.

Positive-Seating Valve for Oil-Well Pumps.—Edwin L. Browning, Long Beach, Calif. Filed Apr. 12, 1926. No. 1,602,879.

Well Pump.—Rees H. Lemmon, Long Beach, Calif. Filed Oct. 28, 1925. No. 1,603,188.

Adjuster-Grip Device for Pumping Equipments.—Clem S. Clarke and Rupert W. Lowe, Shreveport, La. Filed Dec. 1, 1922. No. 1,603,193.

Refining

Process of Decolorizing Petroleum Distillates—Ralph C. Pollock, Long Beach, Calif., assignor to Union Oil Co. of California, Los Angeles, Calif. Filed Apr. 4, 1923. No. 1,602,703.

Process and Apparatus for Cracking Hydrocarbon Oils.—Warren F. Faragher, William Arthur Gruse, and Frederic Horace Garner, Pittsburgh, Pa., assignors to Gulf Refining Co., Pittsburgh, Pa. Filed Jan. 15, 1921. No. 1,601,727.

Process and Apparatus for Cracking Hydrocarbon Oils.—Warren F. Faragher, William Arthur Gruse, and Frederic Horace Garner, Pittsburgh, Pa., assignors to Gulf Refining Co., Pittsburgh Pa. Filed Jan. 15, 1921. No. 1,601,728.

Process of Distillation.—Warren F. Faragher, William Arthur Gruse and Frederic Horace Garner, Pittsburgh, Pa., assignors to Gulf Refining Co., Pittsburgh, Pa. Filed May 25 1921. No. 1,601,729.

Process and Apparatus for Cracking Hydrocarbon Oils.—Warren F. Faragher, Pittsburgh, and William A. Gruse, Wilkinsburg, Pa., and Frederic H. Garner, Fawley, England, assignors to Gulf Refining Co., Pittsburgh, Pa. Filed Mar. 29, 1923. No. 1,601,730.

Process of Refining Mineral Oil.—Theodor Hellthaler, Granschutz, Germany, assignor to the Firm: Hugo Stinnes Riebeck Montan und Olwerke Akt. Ges.,

Halle-on-the-Saale, Germany. Filed Aug. 1, 1925. No. 1,601,753.

Method and Apparatus for Distilling Crude Oils from Shale.—Chester A. Spotz, Greenwich, Conn. Filed June 8, 1925. No. 1,601,777.

Process for Treating Hydrocarbon Oils.—Joseph B. Weaver, Chicago, Ill., assignor to Oil Products Co., Toledo, Ohio. Filed June 15, 1925. No. 1,601,786.

Splitting up of Tars, Crude Mineral Oils, and the Like.—Michael Melamid, Freiburg, Germany. Filed July 5, 1923. No. 1,602,310.

Process for Converting Hydrocarbons.—Robert T. Pollock, Boston, Mass., assignor to Universal Oil Products Co., Chicago, Ill. Filed Nov. 25, 1919, No. 1,602,990.

Process of Refining Mineral Lubricating Oils.—James W. Weir, Fillmore, Calif. Filed May 14, 1925. No. 1,603,174.

Miscellaneous

Apparatus for Electrical Treatment of Gases and Vapors.—Herbert R. Rowland, East Orange, N. J., assignor to C & C Developing Co., Kansas City, Mo. Filed Nov. 15, 1923. No. 1,601,771.

Process and Apparatus for Separating Substances from Liquids.—Walton C. Graham, Denver, Colo., Horace S. Rumsey, St. Louis, Mo., and Ashur U. Wetherbee, Evanston, Ill., assignors to Gilchrist & Co. Filed Jan. 5, 1925. No. 1,602,014.

Liquid-Level-Gauging Means.—David T. Williams, Paterson, N. J. Filed June 27, 1923. No. 1,602,063.

Apparatus for the Destructive Distillation of Solid Bituminous Materials.—Arthur M. Smith, Cleveland Heights, O. Filed Dec. 21, 1922. No. 1,602,128.

Pumping Machinery.—Frank A. Browne, Wayne, Pa., assignor to The Barber Asphalt Co., Philadelphia, Pa. Filed Aug. 14, 1922. No. 1,602,371.

Process for the Production of Solid Alcohol Structure Soaps.—Richard Falck, Munden-in-Hanover, Germany. Filed Dec. 5, 1924. No. 1,601,244.

Apparatus for Making Air Gas.—Hans Foersterling, Jamesburg, N. J. Filed Oct. 10, 1925. No. 1,601,303.

Indicating Dehydrator.—Leland H. Hill, Swissvale, Pa., assignor to Westinghouse Electric & Manufacturing Co. Filed Oct. 14, 1924. No. 1,601,308.

Purifying Alcohols.—Matthew D. Mann, Jr., Roselle, and Robert B. Lebo, Elizabeth, N. J., assignors to Standard Development Co. Filed Mar. 6, 1923. No. 1,601,404.

Filter for Gasoline and the Like.—Walter T. Munro, Crestwood, N. Y. Filed Feb. 6, 1926. No. 1,601,502.

Filter for Gasoline and the Like.—Walter T. Munro, Crestwood, N. Y. Filed June 4, 1926. No. 1,601,503.

Method of an Apparatus for Laying Submerged Pipe Line.—James V. Ferry, Atlantic City, and Anthony P. Miller, Pleasantsville, N. J., assignors to James Ferry Co., Atlantic City, N. J. Filed Feb. 12, 1926. No. 1,603,106.

Oil-Well Swab.—William J. Miller, Houston, Tex. Filed Oct. 23, 1925. No. 1,603,138.

Natural Gasoline

Apparatus for Determining Humidity of Gases.—James C. Irwin, Jr., Kansas City, Mo. Filed Apr. 27, 1925. No. 1,601,243.

Separator of Gaseous Mixtures.—Jeane Le Rouge, Boulogne, France, assignor to Societe l'Air Liquide, Paris, France. Filed Nov. 10, 1923. No. 1,602,535.

New Publications

The Decennial Index. Vols 1-10 of the Journal of the Institution of Petroleum Technologists and Record of Transactions is off the press. The papers that have been published and subjects that have been treated in the Journal during the 10-year period are indexed both under subjects and authors. The index is published by the Institution of Petroleum Technologists, Aldine House, Bedford st., Strand, London, and sells at 7 shillings and sixpence or $1.80 at normal exchange.

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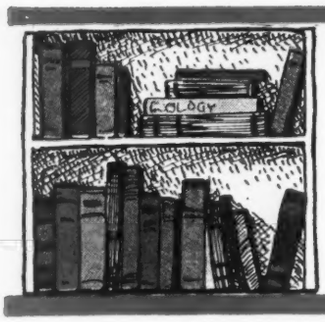

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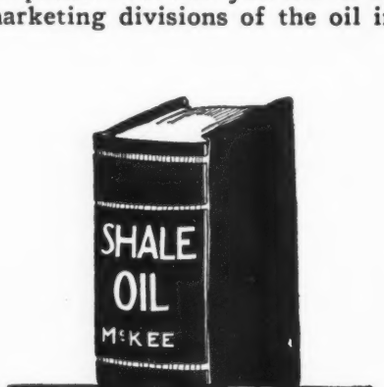

If you are interested in the great problem of supplying the world with fuel—get a copy of SHALE OIL.

It is written by men who have devoted years to the investigation of oil shale resources and their uses. R. H. McKee, professor of chemical engineering, Columbia Univ., is chief editor, and other oil shale specialists have contributed chapters as follows:

Origin of Oil Shales—Geology and distribution—Kerogen, the oil yielding material—Fundamental factors in analyzing and evaluating—Refining of shale oils—Nitrogen constituents—Basic factors of industry—Distillation plants—Patents. 325 pages—profusely illustrated, $4.50.

Power Plant LUBRICATION

"Power Plant Lubrication" is a new book just out. The author, Wm. F. Osborne, has for several years been working out methods of improving lubricating conditions in a great variety of machines.

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ON THE LAZY BENCH

National Petroleum News

A Sad, Sad Case

"Anybody hurt in the wreck?" inquired the excited passerby, as he rushed up to where the car had overturned.

"One gentleman, I believe," replied the Innocent Bystander.

"Bones broken?"

"I think it's his heart," answered the Innocent Bystander, as he pointed to the victim who was sitting beside a leaking suitcase and weeping bitterly.

Flash Points

◈ ◈ ◈

A newly wedded pair who were spending their honeymoon at Niagara Falls, and had stopped to get some light refreshments.

The trim young waitress approached them and politely asked if they wanted "Honeymoon Salad."

The rather bashful groom asked of what it consisted, and the young waitress answered: "Just lettuce alone."

—The Booster.

◈ ◈ ◈

Getting Ready for the Winter Lyceum Season

Milo Brown, musician, singer, dancer, and general all-around comedy man, is coming back to Ponca City. J. F. Gorton will act as agent at Red Rock.

—Marland Service Man.

◈ ◈ ◈

Kiss Me Again

Sweet Young Thing—"Oh, Helen! As I came up the steps your boss grabbed me and kissed me."

"Helen (Oil Man's Stenog)—"That's what you get for wearing my coat."

—Unloading Rack.

◈ ◈ ◈

The Crime of Crimes

"What's the matter with you? You look guilty."

"I am; I knew I'd give myself away. I've just driven five hundred and one miles without changing my oil."

—Life.

◈ ◈ ◈

Wise Guy: "Here, sonny is a quarter. Does any other fellow besides me call to see your sister?"

Sonny: "I don't think he really calls to see her 'cause they never have any light in the parlor when he's there."

—The Booster.

◈ ◈ ◈

Getting the baby to sleep is hardest when she is about eighteen years old.

—The Booster.

Au Gratin

A French Canuck ran a grocery among folk of his own nativity and tongue.

These folk had never, up to that time seen any cranberries. One of his lady customers asked:

"How you cook heem?" indicating the cranberries.

"You put heem on ze stove an' cook heem an' she make appl' sauce just so good as prune!"

—Loreco Diamond

◈ ◈ ◈

A Choice of Terms

The track supervisor received the following note from one of his track foremen:

"I'm sending in the accident report on Casey's foot when he struck it with the spike maul. Now, under 'Remarks,' do you want mine, or do you want Casey's?"

Magnolia Oil News

◈ ◈ ◈

"Now that you've seen my son and heir," said the proud young father, "which side of the house do you think he resembles?"

"Well," said his astonished bachelor friend, "his full beauty isn't developed yet, but surely you don't suggest that he —er—looks like the side of a house, do you?"

Parkersburg Rig & Reel

◈ ◈ ◈

"Jedge, y'honah," complained an irate colored lady to the court, "dis heah no 'count husban' o' mine drinks."

"Yassuh, jedge, yo' honah. Ah does drink some," admitted the husband. "But jedge, dat woman don' treat me right. Why, ah pawns the kitchen stove t' git a li'l money an' she don' miss it fo' two weeks."

—The Booster.

◈ ◈ ◈

We Believe Not

A. C. Branson (Phillips Petr.)—"Does your father object to kissing?"

Fair Steno—"No. Do you want to kiss him?"

—Unloading Rack.

◈ ◈ ◈

Autoist—"Where do you get auto parts around here?"

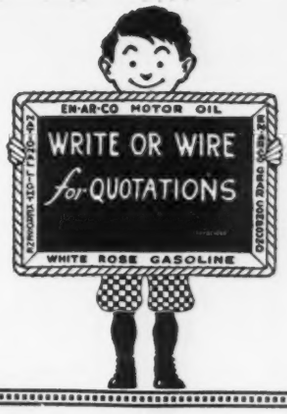
Native—"At the railroad crossing."

Pacific Gasoline Booster

◈ ◈ ◈

He: "No, my father wasn't exactly a policeman, but he went with them a great deal."

Pacific Gasoline Booster



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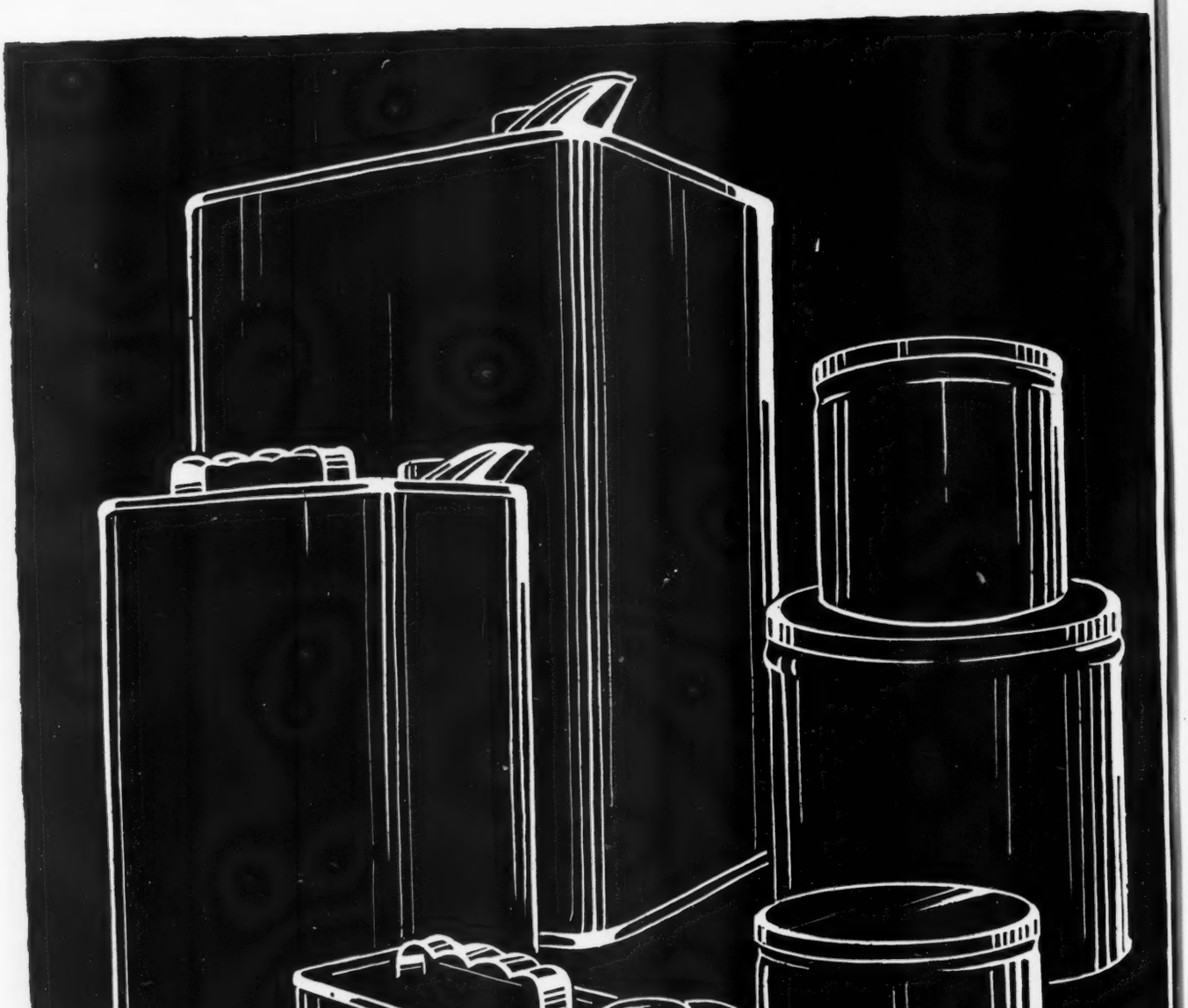

UNITED STATES

Refinery - Tank Wagon Markets

National Petroleum News

Exporters Renew Interest in Gasolines But Domestic Market is Lower

Staff Special

TULSA, Oct. 23

THE first active interest of exporters in the Mid-Continent field for several weeks was shown Tuesday and Wednesday following the ½ cent reduction in price of export gasoline Monday by the Standard Oil Co. of New Jersey. The reduction was the third made by this company within the last month.

North Texas refiners sold slightly more than 1,000,000 gallons of 64-66, 375 end point gasoline to three exporters, two of them large Independents. The price was around 10¼ cents a gallon.

A part of these sales was made possible when two or three companies which had contracts with the Standard of New Jersey, exercised their right under the agreement and cancelled. They then sold their production to the exporters who had begun to inquire soon after the reduction. The Standard of New Jersey had permitted a few refiners to cancel their contracts even before the last price cut, and when their posted price on the contracts went under 10 cents a gallon, refiners who still were shipping on the contracts, immediately requested and were granted permission to cancel.

About the middle of the week an inquiry was received by an Oklahoma refiner for 1,000,000 gallons of 60-62, 400 e. p. gasoline at 10⅜ cents a gallon. This refiner said, however, that he turned down the offer, since he was moving all of this grade of gasoline to his trade at higher prices. The Texas Co. Friday and Saturday purchased a quantity of 60-62, 400 e. p. gasoline from north Texas refiners at 10¼ cents a gallon. The total volume bought was not revealed, but it was known to have been in excess of 50 cars.

Domestic Market Lower

THESE export and domestic purchases, however, failed to have any strengthening effect on the general gasoline market, except temporarily in north Texas. Prices of all gasolines moved lower late in the week. Natural gasolines remained generally unchanged. Kerosenes, distillates and fuel oils developed a slightly improved demand although not sufficient to change prices.

The present market situation can be traced largely to the belief by jobbers that crude and tank wagon prices are on the verge of a downward revision.

Many factors here have been following closely developments in the new Seminole pool, and have expressed the opinion that the crude price structure is dependent upon the production in that territory. For the week ended July 24 production in Seminole county was slightly over 4000 barrels daily average. For the week ended today, the production was approximately 70,000 barrels a day, an increase of 66,000 barrels within 90 days.

Other factors are emphatic in their belief that crude will not be reduced in the immediate future. The president of one of the larger refineries in Oklahoma on Thursday offered to bet with his assistant salesmanager that crude would not be reduced until late in November, if then.

Jobbers Still Cautious

JOBBERS are paying little attention to opinions, however. They know from past experience that it isn't the best policy to be loaded with stocks in the fall when the chances are they can buy from hand-to-mouth, get immediate shipments and not be caught with high priced goods in the event of downward changes in either tank wagon or crude.

Refiners, therefore, have the gasoline stocks in their own hands, and from all appearances should be in an excellent position to name their own prices, yet they have been unable to hold their market steady although many declare they are losing money on each barrel of crude they run.

Several of the larger refiners held their quotations on 58-60 U. S. Motor to 10 cents all week, but a few said they had met some competition at 9¾ cents. Late in the week several factors were accepting 9⅝ cents a gallon on orders of five cars or more, but were holding their price at 9¾ cents for one- and two-car orders. One refiner booked some business for resale at 9½ cents, and said that he had booked one order for shipment in ten days, beginning next Wednesday, at 9⅜ cents.

The export buying stiffened U. S. Motor prices for a day or two, but by today the price was down from 9¾ to 10 cents to a flat 9¾ cents.

Kansas refiners last week and this week were back on a normal basis after having been handicapped temporarily by floods. With more gasoline production and consumption only slightly increased prices naturally moved lower in sympathy with Group 3. Arkansas and Louisiana refiners also put out slightly lower quotations during the week.

Higher gravity gasolines continued to be in good demand, refiners in virtually all fields reported. The sale of the 64-66, and the 60-62 gravity gasolines in north Texas put refiners there in good shape. Little 64-66 gasoline is being made in Oklahoma, and refiners say they have had no trouble in moving their production. One refiner said today his plants were being forced to capacity to produce 60-62, 400 e. p. goods, even at the expense of U. S. Motor, and that the demand was keeping pace with the production. Jobbers in the northern territory naturally would be expected to buy more lighter gasolines in preference to U. S. Motor as the cooler weather set in as long as they could get it cheap enough to give them a good profit.

Naturals Marking Time

ONE natural gasoline factor within the past two weeks has booked two or three large orders for shipment over the next 60 and 90 days. Orders have been coming in reasonably well from the north and east, with an occasional order for shipment to the Gulf. Several manufacturers reported late in the week, however, that they were about up with shipments on old orders and that new orders were not coming in very well. Prices, however, had not been materially affected up to today. Comparatively little Grade A has been available in the field, and prices have held well on that product. Grade AA has been more freely offered, as have Grades B and BB. Grade C has been scarce and prices have shown only minor fluctuations.

Kerosenes developed a slightly better demand late in the week after being

(Continued on page 101)

STASO

FEATURES

Perfect transmission lubrication at all temperatures—its flow at exceedingly low temperature, its gear-clinging quality at high summer heat, are outstanding points which have placed STASO at the top of transmission lubricants. It entirely eliminates the danger of gear tracking or channeling. It positively will not congeal in zero temperatures and will not lose its body and leak out in the hottest weather.

APPROVAL

The fact that nearly 50% of all automobile manufacturers in the United States are using STASO as their standard transmission lubricant for all new cars sent out from the factories, is a sufficient stamp of approval to guarantee quality. Before making their choice, STASO was put under severe laboratory tests and scored highest on points of cold test and uniformity.

SUPPLY

Behind this super-quality transmission lubricant is an old-established organization with a large Chicago barreling plant which guarantees prompt deliveries in tank cars, carloads, drums and half-drums. The dependability of the supply, the remarkable sales-building qualities of STASO, together with a price that allows jobbers a liberal margin of profit, makes unequalled combination.

Why not investigate this remarkable product?

Exclusive territories granted to Independent Jobbers.

TRANSMISSION LUBRICANT

GASOLINE — FROM COAST TO COAST — INDEPENDENT — 67 — OIL — MOTOR OIL

Keystone Oil & Manufacturing Division

Central Commercial Company

332 South Michigan Ave. Chicago

Refinery Markets on Light Oils and Lubricants

Pennsylvania, Oklahoma, Kansas, North and South Texas, Louisiana, Arkansas, California and New England

GASOLINE AND NAPHTHA

PENNSYLVANIA	Prices Oct. 25	Prices Oct. 18	Prices Oct. 11
52-54 Naphtha	11¾–12	12 –12¼	12¼–12¾
54-56 Naphtha	12 –12¼	12¼–12½	12½–13
58-60 Gasoline	12 –12¼	12¼–12½	12½–12¾
60-62 Straight-run gasoline	13 –13¼	13 –13½	13 –13½
64-66 Straight-run gasoline	13½–14	14 –14½	14 –14½
68-70 Straighr-run gas.350-360 E.P.	14½–15	14¾–15	14¾–15
68-70 Straight-run gs.305-320 E.P.	19 –20	19 –20	18 –19
OKLAHOMA			
48-50 450 E. P. naphtha	9⅛– 9⅝	9½– 9¾	9¾–10
50-52 450 E. P. naphtha	9½– 9⅝	9½– 9¾	9¾–10
56-58 450 E. P. gasoline	9¼– 9½	– 9⅝	9⅝– 9¾
56-58 U. S. Motor gasoline	9½– 9⅝	9⅝– 9¾	– 9⅞
58-60 450 E. P. gasoline	9⅜– 9½	– 9⅝	– 9¾
58-60 U. S. Motor 437 E. P.	9⅝– 9¾	9¾–10	10 –10¼
60-62 400 E. P. gasoline	–10½	10½–10¾	10½–10¾
64-66 390 E. P. gasoline	10⅝–10¾	10¾–10⅞	10¾–11
64-66 375 E. P. gasoline	10⅞–11	11 –11¼	11 –11¼
68-70 350-360 E. P. gasoline	11½–11¾	11⅝–11¾	11¾–11⅞
64-66 437 E. P. blend	– 9½	9⅝– 9¾	9¾–10
KANSAS*			
58-60 U. S. Motor gasoline	9⅞–10⅛	10 –10¼	10½–10¾
*F. O. B. refinery Kansas destination.			
NORTH TEXAS			
48-50 450 E. P. naphtha	– 9½	– 9¾	– 9¾
56-58 450 E. P. gasoline	– 9½	– 9½	– 9½
58-60 450 E. P. gasoline	9½– 9⅝	– 9⅝	9½– 9⅝
56-58 U. S. Motor gasoline	– 9⅝	9⅝– 9¾	9¾– 9⅞
58-60 U. S. Motor gasoline	– 9¾	9¾–10	–10
64-66 390 E. P. gasoline	10⅜–10½	–10½	–10½
64-66 375 E. P. gasoline	10⅝–10¾	10⅝–10¾	–10¾
68-70 350-360 E. P. gasoline	11½–11¾	11⅝–11¾	–11¾
NORTH LOUISIANA			
58-60 U. S. Motor 437 E. P.	–10	10 –10¼	10¼–10⅜
ARKANSAS			
56-58 450 E. P. gasoline	– 9¾	– 9¾	10⅛–10¼
58-60 450 E. P. gasoline	– 9⅞	– 9⅞	–10¼
58-60 U. S. Motor gasoline	9⅞–10	10 –10⅛	10¼–10½
CALIFORNIA			
*54-58 U. S. Motor 437 E. P.		9 – 9½	9 – 9½
*58-61 U. S. Motor, 437 E. P.		10½–10¾	10½–10¾
*42-45 Engine distillate,445-480E.P.		7 – 7½	7 – 7½
*2c tax to be added if used in state.			
NEW ENGLAND (F. O. B. Boston and Fall River)			
58-60 U. S. Motor gasoline	–12⅝	–12⅝	–12¾

NATURAL GASOLINE

(Note: End point of all grades, not over 375° F.)

OKLAHOMA			
Grade AA, 80-87.9 375 E. P.	9 – 9¼	9 – 9¼	9¼– 9½
Grade A, 72-79.9 375 E. P.	9 – 9¼	9 – 9¼	9¼– 9½
Grade BB, 84-92, 375 E. P.	8½– 8¾	– 8¾	– 9
Grade B, 76-83.9, 375 E. P.	8½– 8¾	– 8¾	– 9
Grade C, 80-90, 375 E. P.	8¼– 8½	– 8½	8¾– 8⅞
NORTH LOUISIANA			
*Grade Double A	– 9½	9½– 9¾	9⅝– 9¾
*Grade Double B	– 9¼	– 9¼	– 9½
*Grade C	– 9	– 9	– 9
*F. O. B. Monroe District.			
NORTH TEXAS			
*Grade Double A	9⅛– 9¼	9 – 9¼	9¼– 9½
*Grade A	9⅛– 9¼	9 – 9¼	9¼– 9½
*Grade Double B	8½– 8¾	– 8¾	– 9
*Grade B	8½– 8¾	– 8¾	– 9
*Grade C	– 8½	– 8½	– 8¾
*F. O. B. Breckenridge.			
CALIFORNIA			
75-85, 375-390 E. P.		11½–12	12 –12½
PENNSYLVANIA			
68-70 Grav. 437 E. P.	12¾–13	13¼–13½	13¼–13½
64-66 Grav. 437 E. P.	12¾–13	13½–14	13½–14
60-62 Grav. 437 E. P.	12¾–13	13½–14	13½–14
68-70 Grav. 420 E. P.	13 –13½	13½–14	13½–14

BURNING OILS

PENNSYLVANIA			
45 Water White Kerosene	– 9	9¼– 9½	9¼–10
46 Water White Kerosene	9¼– 9½	10 –10¼	10 –10½
47 Water White Kerosene	–10	10½–10¾	10½–11
OKLAHOMA			
41-43 Water White Kerosene	6¾– 7	6¾– 7	7 – 7½
42-44 Water White Kerosene	7¼– 7½	7¼– 7½	7¾– 8
KANSAS			
41-43 w. w. kerosene	7¾– 8	– 8	8¼– 8½
42-44 w. w. kerosene	8¼– 8½	– 8½	– 9
NORTH TEXAS			
40-42 Water White Kerosene	6½– 6¾	.....	.....
41-43 Water White Kerosene	6¾– 7	6¾– 7	7 – 7¼
NORTH LOUISIANA			
41-43 Water White Kerosene	– 7½	7½– 7¾	– 8
ARKANSAS			
41-43 Water White Kerosene	– 7¼	– 7½	– 8¼
*Prices nominal.			

CALIFORNIA	Prices Oct. 25	Prices Oct. 18	Prices Oct. 11
38-40 Water White Kerosene		6½– 7	6½– 7
NEW ENGLAND			
**40-43 Water White Kerosene	–11	–11	–11

NEUTRAL OIL

PENNSYLVANIA (Viscosity at 70° F.)			
200 Vis. No. 3 Assoc. Filt.	28½–29	28½–29	28½–29
180 Vis. No. 3 Assoc. Filt.	25½–26	26 –26½	26 –26½
150 Vis. No. 3 Assoc. Filt.	23½–24	23½–24	23½–24
(Non-Viscous)			
34 Grav. 350-360 Flash	7½– 8	7½– 8	7½– 8
36 Miners Neutrals 300-305 Flash	7 – 7½	7½– 7¾	7½– 7¾
OKLAHOMA (Viscosity at 100° F.)			
100 Vis. No. 2 color	7 – 7½	7 – 7½	7 – 7½
150 Vis. No. 3 color	9 –10	9¼–10	9¼–10
150 Vis. No. 4 color	– 9¾	– 9¾	– 9¾
180 Vis. No. 3 color	10 –11	10 –11½	10 –11½
180 Vis. No. 4 color	10 –10½	10 –10½	10 –10½
180 Vis. No. 5 color	10 –10¼	10 –10¼	10 –10¾
200 Vis. No. 3 color	10¾–11¾	10¾–12½	10¾–12½
200 Vis. No. 4 color	–11½	–11½	–11½
200 Vis. No. 5 color	9¼–11¼	9¼–11¼	9¼–11¼
220 Vis. No. 3 color	12 –13½	12 –13½	12 –13½
220 Vis. No. 4 color	–13	–13	–13
220 Vis. No. 5 color	12 –12¾	12 –12¾	12 –12¾
240 Vis. No. 3 color	14 –15	14 –15	14 –15
240 Vis. No. 4 color	–14½	–14½	–14½
240 Vis. No. 5 color	13 –14	13 –14	13 –14
280 Vis. No. 3 color	16 –17	16 –17	16 –17
280 Vis. No. 4 color	–16½	–16½	–16½
280 Vis. No. 5 color	15 –16	15 –16	15 –16
300 Vis. No. 5-6 color	–17	–17	–17
GULF COASTAL (Viscosity at 100° F. cold test 0)			
100 Vis. No. 2 Color Unfilt. Pale	8½– 9	8½– 9	8½– 9
200 Vis. No. 3 Color Unfilt. Pale	11½–12	11½–12	11½–12
300 Vis. No. 3 Color Unfilt. Pale	12½–13	12½–13	12½–13
500 Vis. No. 3½ Color Unfilt. Pale	14 –14½	14 –14½	14 –14½
750 Vis. No. 4 Color Unfilt. Pale	17½–18	17½–18	17½–18
200 Vis. No. 5½ Color Red Oil	10 –10½	10 –10½	10 –10½
300 Vis. No. 5½ Color Red Oil	11½–12	11½–12	11½–12
500 Vis. No. 6 Color Red Oil	12½–13	12½–13	12½–13
750 Vis. No. 6 Color Red Oil	16 –17	16 –17	16 –17
CALIFORNIA (Viscosity at 100° F.)			
100 Vis. No. 2 color	9½–10	9½–10	9½–10
100 Vis. No. 3 color	8 – 8½	8 – 8½	8 – 8½
200 Vis. No. 3 color	10 –10½	10 –10½	10 –10½
300 Vis. No. 3 color	11 –11½	11 –11½	11 –11½
450 Vis. No. 3½ color	13 –13½	13 –13½	13 –13½
550 Vis. No. 3½ color	15 –15½	15 –15½	15 –15½
600 Vis. No. 3½ color	15½–16	15½–16	15½–16
100 Vis. No. 5 color	7 – 7½	7 – 7½	7 – 7½
200 Vis. No. 5 color	9 – 9½	9 – 9½	9 – 9½
300 Vis. No. 5 color	9½–10	9½–10	9½–10
400 Vis. No. 6 color	11½–12	11½–12	11½–12
500 Vis. No. 6 color	12 –12½	12 –12½	12 –12½
600 Vis. No. 6 color	12½–13	12½–13	12½–13
700 Vis. No. 7 color	14½–15	14½–15	14½–15

CYLINDER STOCKS

OKLAHOMA			
190-200 Vis. at 210° Bright Stock	31 –35	31 –35	31 –35
150-160 Vis. at 210° Bright Stock	27 –31	27 –31	27 –31
600 E Stock 140-150 Vis —210°	18 –20	18 –20	18 –20
600 Steam Refined Olive Green	8 –11	8 –11	8 –11
600 Steam Refined Dark Green	5½– 7½	6 – 8	6 – 8
Black Oil	5 – 6	5 – 6	5 – 6
PENNSYLVANIA (1-inch Immersion Test)			
600 Steam Refined	11½–12	11½–12	11½–12
650 Steam Refined	15 –16	–16	–16
600 Flash	–21	21 –21½	21 –21½
625 Flash	–31	–31	31½–32
600 Warren E	20 –20½	20½–21	20½–21
600 Oil City E	18½–19	19½–20	19½–20
600 D Filtered	25½–26½	26½–27	26 –26½
Cold Test Stocks (bright filtered)	40½–41	–41	–41
Cold Test Stock (dark filtered)	38½–39	–39	–39

LONG RESIDUUM STOCKS

PENNSYLVANIA			
45-50 vis. @ 210, 420-425 flash	–31	–31	–31
50-55 vis. @ 210, 430-435 flash	–32	–32	–32
60-65 vis. @ 210, 440-450 flash	–33	–33	–33
70-75 vis. @ 210, 450-455 flash	–34	–34	–34
75-80 vis. @ 210, 440-450 flash	–35	–35	–35
80-85 vis. @ 210, 440-450 flash	–35	–35	–35
80-85 vis. @ 210, 450-460 flash	–36	–36	–36
80-85 vis. @ 210, 460-465 flash	–37	–37	–37
95-100 vis. @ 210, 490-495 flash	–38	–38	–38

(Note—Prices of total immersion test goods average 1 to 3 cents per gallon higher.)

**Only one refiner quoting.

Transported By Tank Truck—
A Quarter of a Billion Barrels Annually

From peddling kerosene with mule drawn wagon tanks to the transportation of a quarter of a billion barrels of gasolene by tank truck annually—

From wagon tanks to an investment of one hundred million dollars in one hundred thousand tank trucks—

All in a decade and a half.

These facts, taken from recent statistics of the Oil & Gas Journal, measure the giant strides of the marketing division of the oil industry and emphasize the importance of transportation by tank truck.

A quarter of a billion barrels by tank truck annually. A tremendous volume. And most of it carried in Columbian Truck Tanks. The Columbians in active service have capacity enough to carry more than half of this great volume in a years time and yet average only two trips per day.

To technical engineers of the large National Companies, using thousands of truck tanks, and to seasoned operators of smaller fleets a comparison of its design, its monometallic construction and its record of performance quickly reveals the reason why the Columbian is dominant in the field of truck tanks.

COLUMBIAN STEEL TANK COMPANY

EST'D 1894

TANKS FOR THE WORLD

1405-1625 WEST 12TH STREET KANSAS CITY, MISSOURI

Refinery Markets on Wax and Heavy Oil Products

Pennsylvania, Oklahoma, Kansas, North and South Texas, Louisiana, Arkansas, California and New England

WAX

PENNSYLVANIA	Prices Oct. 25	Prices Oct. 18	Price Oct. 11
	(Per Pound, New York)		
122-124 White Crude Scale	– 5	5 – 5⅛	– 5¼
124-126 White Crude Scale.	– 5⅛	5⅛– 5¼	– 5⅜
OKLAHOMA			
124-126 White Crude Scale.	4½– 4¾	4⅝ –4¾	4⅝– 4¾
CALIFORNIA			
White Crude Scale.....	.....	6 – 7	6 – 7

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil.....	6⅜– 6⅝	6⅜– 6⅝	6⅜– 6½
30-34 Fuel Oil.....	– 6	5¾– 6	5⅞– 6
28-30 Fuel Oil.....	– 6	5¾– 6	5¾– 6
OKLAHOMA			
38-40 Straw distillate.....	5⅜– 5⅝	5⅝– 5⅞	5¾– 6
36-38 Straw distillate.....	5¼– 5⅜	5⅜– 5⅝	5½– 5¾
32-36 Gas oil cracked (Gal.)	4⅛– 4¼	4⅛– 4¼	4⅛– 4¼
32-36 uncrackedGas oil,(Gal.)	4¼– 4⅜	4¼– 4⅜	4¼– 4⅜
28-30 Fuel oil (Bbl.).....	1.52½–1.57½	1.55 –1.60	1.50 –1.60
14-16 Fuel oil (Bbl.).....	1.20 –1.25	1.22½–1.25	1.22½–1.25
16-18 Fuel oil (Bbl.).....	1.25 –1.27½	1.25 –1.27½	1.25 –1.27½
18-22 Fuel oil (Bbl.).....	1.25 –1.30	1.25 –1.30	1.27½–1.30
22-26 Fuel oil (Bbl.).....	1.30 –1.35	1.30 –1.35	1.30 –1.35
24-26 Fuel oil (Bbl.).....	1.35 –1.40	1.35 –1.40	1.35 –1.40
26-28 Fuel oil (Bbl.).....	1.40 –1.50	1.40 –1.50	1.40 –1.50
KANSAS*			
38-40 Light straw distillate.	– 6	5¾– 6	5¾– 6
36-38 Light straw distillate.	5¾– 5⅞	5¾– 5⅞	5¾– 5⅞
32-36 Gas Oil.....	– 4½	4½– 4¾	4½– 4¾
18-22 Fuel Oil.....	1.35 –1.40	1.35 –1.40	1.35 –1.40
24-26 Fuel Oil.....	1.50 –1.60	1.50 –1.60	1.50 –1.60
*F. O. B. refinery, Kansas destination.			
NORTH TEXAS			
38-40 Straw Distillate.....	5¼– 5½	5¼– 5½	5¼– 5½
32-36 Gas Oil (Gal.) cracked	4 – 4⅛	4 – 4⅛	4 – 4¼
32-36 uncracked gas oil....	– 4¼	4⅛– 4¼	4⅛– 4⅜
24-26 Fuel per (Bbl.).....	1.50–1.55	1.47½–1.50	1.45 –1.50
GULF COASTAL			
Fuel.....	1.55 –1.60	1.55 –1.60	1.55 –1.60
Gas Oil.....	5¼– 5½	5½– 5⅝	5½– 5⅝

NORTH LOUISIANA	Prices Oct. 25	Prices Oct. 18	Prices Oct. 11
32-36 Gas oil, cracked(Gal.)	4 – 4¼	4⅛– 4⅜	4⅛– 4⅜
32-36 Gas oil,uncracked(Gal.)	4⅜– 4½	4⅜– 4½	4½– 4⅝
16-20 Fuel Oil (Bbl.).....	1.20 –1.25	1.20 –1.30	1.20 –1.30
ARKANSAS			
30-34 Gas oil.....	4 – 4¼	4 – 4¼	4⅛– 4¼
32-36 Gas oil.....	4¼– 4½	4¼– 4½	– 4½
Smackover Crude Fuel....	1.27½–1.30	1.27½–1.30	1.27½–1.30
Road oil.....	1.26 –1.30	1.26 –1.30	1.26 –1.30
CALIFORNIA*			
14-18 Fuel Oil (Bbl.).....	.....	85 –1.00	85 –1.00
14-18 Bunker Oil (Bbl.)...	.....	85 –1.00	85 –1.00
30-34 Gas Oil (Bbl.).....	.....	–1.15	1.00 –1.15
27 + Diesel Oil (Bbl.)....	.....	–1.15	1.00 –1.15
*(San Joaquin Valley, San Franciso 4c per bbl. more.)			
NEW ENGLAND			
	(F. O. B. Boston and Fall River)		
30-32 Gas Oil (Gal.).....	– 6	– 6¼	– 6
Fuel Oil (Bunker C) Bbl..	–1.73	–1.75	–1.72

PETROLATUMS

PENNSYLVANIA			
Snow White.....	8½– 9	8½– 9	8½– 9
Lily White.....	7½– 8	7½– 8	7½– 8
Cream White.....	– 6½	– 6½	– 6½
Light Amber.....	– 3½	– 3½	– 3½
Amber.....	3¼– 3½	3¼– 3½	3¼– 3½
Red.....	– 3	– 3	– 3
Green —5.....	1¾– 2	1¾– 2	1¾– 2

PETROLEUM COKE

OKLAHOMA

(Per ton in car lots)

Lump.....	$5–$6	$5–$6	$5–$6
Breeze.....	2–2.25	2–2.25	2–2.25
Still Run.....	3.25–3.50	3.25–3.50	3.25–3.50

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

(Continued from page 97)

dormant for several days. Refiners reported that more favorable weather had permitted farmers to get into their fields, and that consumption accordingly had mounted.

Several refiners making kerosene in Oklahoma refused to go below 7 cents a gallon for their 41-43 w. w. product. A few others, however, booked orders at 6¾ cents a gallon for resale, but today that price was reported harder to find.

North Texas refiners have been producing a large quantity of 40-42 water white kerosene, while only two or three have been cutting straight 41-43 w. w. grade. The higher gravity grade has been about in line with Group 3 prices, while the 40-42 grade has been moving at 6½ to 6¾ cents per gallon.

The warmer weather slowed up distillate demand, but within the last two days refiners reported business was picking up again.

Gas oil has shown no change for several weeks. Fuel oils have been moving slowly and occasional offers at prices slightly under the going market were made by refiners who were being pushed for storage. Prices have shown only slight variations.

Conflicting reports have been obtained on movement of neutral oils and cylinder stocks. Two or three refiners say their business has been exceptionally good, while others say movement has been slow. One refiner has reduced his price of 150 Vis. No. 3 neutral oil ¼ cent. He reduced 600 steam refined dark green cylinder stock 1½ cents to 5½ cents a gallon.

There has been virtually no demand for wax. The Tulsa representative of one export company said he believed the slow movement of wax at present was due in part at least to the fact that a considerable amount is on hand in Germany, and that purchases from that country would be small for some time yet.

Correction

On page 114 in the Oct. 20 issue of NATIONAL PETROLEUM NEWS, it was erroneously stated that Scottish Oils, Ltd. was preparing to adopt the low temperature process of the American Hydrocarbon Co., Inc., of New York, for the treatment of shale. It is the Columbia Shale Oil Co. of Colorado which is considering the use of the process, according to William J. Dallas, secretary of the American Hydrocarbon Co.

MARCUS, IA.—Nagle Bros. & Simonsen have just installed two 15,000 gallon storage tanks for oil products.

Shipping Board Seeks Bid On Bunker C

WASHINGTON, Oct. 25.—The United States Shipping Board has requested bids on its entire requirements of grade C fuel oil at Atlantic and Gulf ports for six and for 12 months from Jan. 1, 1927. The estimated maximum requirements per month are given as follows:

	Bbls. per Month
Boston	20,000
New York	300,000
Philadelphia	100,000
Baltimore	350,000
Norfolk	75,000
Charleston	20,000
Savannah	20,000
Jacksonville	15,000
Tampa	15,000
Galveston, Houston	*200,000
Total	800,000

*Approximately 40,000 barrels of this quality may be taken monthly at Houston, and due consideration will be given to bidders who are in a position to deliver this quantity to buyer's vessels at Houston if required.

For bid forms and specifications write the supply department, United States Shipping Board, Washington, D. C., referring to proposal S. D. No. 14.

LOS ANGELES—J. C. Axelson, general manager, Axelson Machine Co., of Los Angeles, is in the East, after a tour of the Mid-Continent. Mrs. Axelson is with him.

Demand is Steady for All Products In Chicago Resale Market

Staff Special

CHICAGO, Oct. 23.

DEMAND was steady for all commodities in the Chicago resale market this week, and prices generally were firm. Increased activity in higher gravity gasolines, which was noted here 10 days ago, continued all week at the rate of buying that existed late last week. Prices of high test gasolines were firm. The 60-62, 400 e. p. grade was unchanged at 10¾ cents. The 64-66, 375 e. p. gasoline was selling for 11 to 11¼ cents.

There was no change in buying policy affecting 58-60 U. S. Motor gasoline this week, the trade reported. Most sales were for one or two cars and for rush shipment. A sale of 25 cars by a refiner at 9¾ cents was reported Oct. 19. Late in the week a large Michigan jobber inquired for 250,000 gallons of U. S. Motor. One refiner reported his sales had slowly but steadily increased for 10 days.

Sales of U. S. Motor gasoline were made at 9¾ to 10 cents, excepting on Monday when the market was 9⅞ to 10 cents. Refiners and marketers said they were quoting 10 cents but were taking business at 9⅞ and 9¾ cents, and were getting 10 cents in some sales.

Kerosene Demand Unchanged

KEROSENE passed the week unchanged in demand. A refiner offered a large quantity of 42-44 water white kerosene late last week which became a factor in the market early this week. The kerosene was going direct to the trade at 7¼ to 7½ cents. This price range was the market with the exception of Monday when 7⅜ to 7¾ cents was the range. The 41-43 w. w. kerosene which opened the week's business at 7 to 7¼ cents, was 6⅞ to 7 cents Tuesday. This price was the market for the remainder of the week.

There was no large demand for burning oils, but prices were generally firm. The trade reported that jobbers were well stocked with distillates and that the trade expected no increased activity until colder weather increased consumption. Fuel oil demand was marking time until the end of October when November contract business would be considered, the trade said.

Prices of distillates were unchanged. The 38-40 grade sold for 5¾ to 6 cents, and 36-38 for 5½ to 5⅝ cents. Gas oil was 4⅛ to 4¼ cents for dark oil and 4⅜ to 4½ cents on straw color oil.

The 18-22 fuel oil prices were unchanged at $1.27½ to $1.30. The 24-26 grade eased off slightly in mid-week. It was selling for $1.37½ to $1.40 until Wednesday when the price went to $1.35 to $1.40 or the remainder of the week. Smackover, also, was unchanged at $1.27½ to $1.30.

Variable weather has been predicted for next week in the Chicago forecast district. Periods of rain and snow in the northern part and rain in the southern part are predicted. Temperatures will be variable with alternate periods of cold and warm weather.

Acme Petroleum Builds More Gasoline Tanks

CHICAGO, Oct. 22.—Acme Petroleum Co., 624 S. Michigan Ave., Chicago, is building three 15,000-barrel gasoline storage tanks at its plant at Blue Island, Ill., equipped with Wiggins floating roofs, L. B. Patterson, in charge of gasoline sales, announced.

The three additional tanks mean an additional storage capacity of approximately 225 carloads and brings the total capacity of the plant up to roughly 700 carloads. Acme is one of the few carload marketing organizations in the country with substantial storage facilities outside of Group 3.

The Acme plant has been increasing in size and service for six years. Only a comparatively small tank wagon business is done.

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Week's Price Changes Tank Wagon Markets

Gasoline Changes

Standard of New Jersey—T.w. and s.s. prices gasoline reduced 1 cent, New Jersey, Maryland, District of Columbia, Virginia and West Virginia except at Parkersburg,, Charleston and Wheeling, W. Va., and ½ cent in North and South Carolina, **Oct. 20.**

Standard of Indiana—T.w. and s.s. prices gasoline reduced 1 cent, Sioux Falls, S. D., and other S. D. competitive points meeting Oct. 16 cut of Independents, **Oct. 19.**

Standard of Louisiana—T.w. and s.s. prices gasoline reduced 1 cent, Louisiana, excepting New Orleans which was cut 2 cents, **Oct. 19.** T.w. and s.s. prices gasoline reduced 1 cent, Tennessee and Arkansas, excepting Nashville, Memphis and a few outlying points, **Oct. 20.**

Canada—T.w. and s.s. prices gasoline reduced 2 cents, Vancouver, B. C., to 24 cents and 28 cents respectively, **Oct. 6.**

Canada—T.w. and s.s. prices gasoline reduced 2 cents, through Canada, excepting Pacific coast points which include province of British Columbia, **Oct. 25.**

Penn Oil Cuts Retail Gasoline

WASHINGTON, D. C., Oct. 23.—The Penn Oil Co. on Oct 23 reduced its service station prices of gasoline the third time within the week at its 50 stations here. Its retail price became 21 cents, which is 2 cents below that of Standard Oil Co. of New Jersey.

S. O. Indiana Cuts Gasoline, Oil

CHICAGO, Oct. 26.—It was announced late last evening that on Oct. 26 Standard Oil Co. of Indiana would reduce tank wagon and service station prices of gasoline and kerosene 1 cent each throughout its territory. Last previous general change on gasoline was 1 cent advance on May 17, and on kerosene 1 cent reduction on Oct. 13.

Only two general changes on kerosene were made in the Standard of Indiana territory in 1925, while 12 have been announced so far in 1926. Seven general changes on gasoline were made in 1925, as compared with four so far this year.

Benzol Market Easier

By Special Correspondent

NEW YORK, Oct. 25.—Consumption of motor benzol is still large for this time of the year but in view of the unusual gain in production the tendency is slightly easier. Motor benzol in tank cars at the ovens is still quoted at 24 cents a gallon. There is a good contract movement to the manufacturers of motor fuel mixtures which has tended to prevent prices from sagging.

Export demand for motor benzol is more active and it is understood that several fairly large sales have been closed although details are lacking. Pure and 90 per cent benzol are in better demand at unchanged prices.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

These Prices in Effect Oct. 25, 1926

S. O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Atlantic City, N. J.	18	0	18	*	16
Newark, N. J.	18	0	18	20	16
Annapolis, Md.	18	2	20	*	16
Baltimore, Md.	18	2	20	23	16
Cumberland, Md.	18	2	20	23	16
Washington, D. C.	18	2	20	23	16
Danville, Va.	18	4½	22.5	*	16
Norfolk, Va.	18	4½	22.5	25.5	16
Richmond, Va.	18	4½	22.5	25.5	16
Roanoke, Va.	18	4½	22.5	25.5	16
Petersburg, Va.	18	4½	22.5	*	16
Williamsburg, Va.	18	4½	22.5	*	16
Charleston, W. Va.	18	3½	21.5	24.5	16
Clarksburg, W. Va.	18	3½	21.5	24.5	16
Keyser, W. Va.	18	3½	21.5	*	16
Parkersburg, W. Va.	18	3½	21.5	24.5	16
Wheeling, W. Va.	18	3½	21.5	24.5	16
Charlotte, N. C.	19	4	23	26	16
Hickory, N. C.	19	4	23	*	16
High Point, N. C.	19	4	23	*	16
Mt. Airy, N. C.	19	4	23	*	16
Salisbury, N. C.	19	4	23	*	16
Charleston, S. C.	19	5	24	27	16
Columbia, S. C.	19	5	24	27	16

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

*New York City	21	0	21	25	18
Albany, N. Y.	17	0	17	19	18
Buffalo, N. Y.	18	0	18	21	18
Rochester, N. Y.	20	0	20	24	16
Syracuse, N. Y.	17	0	17	19	18
Boston, Mass.	19	0	19	21	18
Augusta, Me.	21	3	24	26	18
Manchester, N. H.	21	2	23	25	18
Burlington, Vt.	21	2	23	25	18

*In steel barrels.

ATLANTIC REFINING

Pittsburgh, Pa.	19	*	19	*24	17
Philadelphia, Pa.	19	*	19	*24	17
Allentown, Pa.	19	*	19	*24	17
Erie, Pa.	†18	*	18	*23	15
Scranton, Pa.	19	*	19	*24	17
Altoona, Pa.	19	*	19	*24	17
Dover, Del.	19	2	21	24	17
Wilmington, Del.	19	2	21	24	17
Providence, R. I.	19	1	20	22	18
Boston, Mass.	19	0	19	21	18
Springfield, Mass.	19	0	19	21	18
Worcester, Mass.	19	0	19	21	18
Hartford, Conn.	19	2	21	24	17
New Haven, Conn.	19	2	21	24	18

*2-cent state tax is collected by retail dealer and paid by him directly to state.

†Most sales are being made at 17c at tank-wagon but 18c is nominal price.

S. O. KENTUCKY

Lexington, Ky.	18	5	23	26	17
Louisville, Ky.	17	5	22	25	17
Covington, Ky.	18	5	23	26	17
Clarksdale, Miss.	18	4	22	25	14.5
Jackson, Miss.	18	4	22	25	15.5
Natchez, Miss.	17.5	4	21.5	24.5	15
Vicksburg, Miss.	17.5	4	21.5	24.5	15
Birmingham, Ala.	19	2	21	24	17.5
Mobile, Ala.	18	2	20	23	16
Montgomery, Ala*	20	2	22	25	18.5
Atlanta, Ga.	†20	3½	24	27	18
Augusta, Ga.	†20	3½	24	27	18
Macon, Ga.	†20	3½	24	27	18
Savannah, Ga.	†18	3½	22	24	16
Jacksonville, Fla.	18	4	22	25	16
Miami, Fla.	20	4	24	27	17.5
Tampa, Fla.	18	4	22	25	16
Pensacola, Fla.	18	4	22	25	16.5

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

†Georgia has ½ cent per gal. inspection fee on gasoline which is deducted as well as the state gasoline road tax of 3½ cents, to get the actual net tank wagon market to dealer.

S. O. INDIANA

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Chicago, Ill.	†19	0	†19	21	14.5
Decatur, Ill.	19.2	0	19.2	21.2	15
E. St. Louis, Ill.	18.1	0	18.1	20.35	14.1
Joliet, Ill.	19.4	0	19.4	21.4	15.2
Peoria, Ill.	19.2	0	19.2	21.2	15
Quincy, Ill.	19.2	0	19.2	21.2	14.8
Indianapolis, Ind.	19.2	3	22.2	24.2	15.2
Evansville, Ind.	19	3	22	24	15
South Bend, Ind.	19.4	3	22.4	24.4	15.4
Detroit, Mich.	19.8	2	21.8	23.8	15.7
Grand Rapids, Mich.	19.7	2	21.7	23.7	15.6
Saginaw, Mich.	19.9	2	21.9	23.9	15.8
Green Bay, Wis.	18.6	2	20.6	22.6	15.3
Madison, Wis.	19.3	2	21.3	23.3	15
Milwaukee, Wis.	19.1	2	21.1	23.1	14.8
La Crosse, Wis.	20.2	2	22.2	24.2	15.9
Minneapolis, Minn.	20.2	2	22.2	24.2	16.1
Duluth, Minn.	20.5	2	22.5	24.5	16.1
Mankato, Minn.	20.1	2	22.1	24.1	15.9
Des Moines, Iowa.	19.5	2	21.5	23.5	15.4
Davenport, Iowa.	19.5	2	21.5	23.5	15.4
Sioux City, Iowa.	16.9	2	18.9	20.9	15
Mason City, Ia.	19.5	2	21.5	23.5	15.4
St. Louis, Mo.	*18.6	2	20.6	22.9	14.5
Kansas City, Mo.	††19.9	2	21.9	23.9	13.8
St. Joseph, Mo.	††19.5	2	21.5	23.5	14.4
Fargo, N. D.	21.9	2	23.9	25.9	18.1
Grand Forks, N. D.	20	2	22	24	18.4
Minot, N. D.	21.9	2	23.9	25.9	18.1
Pierre, S. D.	20.5	3	23.5	25.5	16.6
Huron, S. D.	20.5	3	23.5	25.5	16.6
Wichita, Kans.	**17.8	2	19.8	21.8	14.3
Bartlesville, Okla.	17.8	3	20.8	22.8	14.3

†Dumps of 100 or more gallons at 18c per gallon.
*Includes city tax of ½c.
††Includes city tax of 1c.
**Dumps of 50 gallons or more in Kansas, 1c discount per gallon.

S. O. NEBRASKA

Crawford, Neb.	20	2	22	*	15.75
Omaha, Neb.	19.25	2	21.25	23.25	15
McCook	20.75	2	22.75	24.75	16.5
Norfolk	17	2	19	21	15.5
North Platte	20.75	2	22.75	24.75	16.25
Scottsbluff	20.25	2	22.25	24.25	15.75

*Standard has no service station here.

CONTINENTAL OIL

Denver, Colo.	20	2	22	22	17
Pueblo, Colo.	20	2	22	24	17
Grand Junction, Colo.	24	2	26	28	21
Casper, Wyo.	20	2½	22.5	24.5	15.5
Cheyenne, Wyo.	21	2½	23.5	25.5	17
Butte, Mont.	22	2	24	24	20.5
Helena, Mont.	24	2	26	28	20.5
Salt Lake City, Utah.	20.5	3½	24	26	18
Boise, Ida.	22	3	25	27	20
Twin Falls, Ida.	22	3	25	27	20
Albuquerque, N. M.	25.5	3	28.5	28.5	18.5

S. O. CALIFORNIA

Phoenix, Ariz.	19	3	22	25	21.5
Los Angeles, Cal.	11.5	2	13.5	16.5	15.5
Fresno, Cal.	13.5	2	15.5	18.5	17.5
San Francisco, Cal.	13	2	15	18	15.5
Reno, Nev.	16.5	4	20.5	23.5	19
Portland, Ore.	13	3	16	19	16.5
Seattle, Wash.	13	2	15	18	16.5
Spokane, Wash.	17	2	19	22	20.5
Tacoma, Wash.	13	2	15	18	16.5

S. O. LOUISIANA

Little Rock, Ark.	17	4	21	24	16
Alexandria, La.	17	2	19	22	17
Baton Rouge, La.	16	2	18	21	15.3
Lake Charles, La.	17.5	2	19.5	22.5	17
New Orleans, La.	*16.5	2	18.5	21.5	16
Shreveport, La.	16	2	18	21	16
Lafayette, La.	17	2	19	22	16.5
Bristol, Tenn.	20	3	23	26	17.5
Chattanooga, Tenn.	19.5	3	22.5	25.5	17.5
Knoxville, Tenn.	19.5	3	22.5	25.5	18
Nashville, Tenn.	18	3	21	24	18
Memphis, Tenn.	17	3	20	23	17

*Includes 1c city tax on gasoline and kerosene.

S. O. OHIO

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
All Ohio points	20	2	22	24	17

MAGNOLIA PETROLEUM

Muskogee, Okla.	17	3	20	23	13
Oklahoma City	15	3	18	21	13
Tulsa, Okla.	15	3	18	21	13
Fort Smith, Ark.	18	4	22	25	14.5
Little Rock, Ark.	18	4	22	25	14.5
Texarkana, Ark.	20	4	*24	*24	15
Dallas, Tex.	16	1	**17	17	15
El Paso, Tex.	20	1	**21	21	15
Fort Worth, Tex.	16	1	**17	17	15
Houston, Tex.	20	1	**21	21	15
San Antonio, Tex.	18	1	**19	19	15

*Within city of Texarkana, Ark., the state tax on gasoline is 1c per gal. conforming with the Texas state tax. In Texarkana district outside of the city the 4c state tax applies.

**Magnolia is maintaining only one price schedule in Texas—its retail schedule. This is in keeping with its contract, effective May 5, which allows the dealer 3c off the retail price.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changed)

	Oleum Spirits	V.M.& P Naphtha	Cleaner Naphtha
Chicago	21	23	21
Detroit	22.2	24.7	22.7
Kansas City	21.2	23.2	21.2
Milwaukee	21.2	*25.7	*23.7
Minneapolis	*24.5	*27	*25
St. Louis	20.4	22.9	22.2
New York	...	22	....

*Includes 2c state tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Toronto	24.5	3	27.4	31	24
Ottawa	24.5	3	27.5	31	24
Cochrane	29.5	3	32.5	38	29
Ft. William	26.5	3	28.5	34	26.5

MANITOBA

Winnipeg	27.5	3	30.5	34	26.5

SASKATCHEWAN

Regina	30.5	0	30.5	35	29.5

ALBERTA

Edmonton	27.5	2	31.5	35	28.5
Calgary	27.5	2	29.5	33	26.5

BRITISH COLUMBIA

Vancouver	21	3	24	28	23

QUEBEC

Montreal	24.5	3	27.5	31	24
Quebec City	26.5	3	29.5	33	26
Three Rivers	26.5	3	29.5	33	26

NEW BRUNSWICK

St. John	27.5	3	30.5	34	27
Moncton	27.5	3	30.5	34	27.5

NOVA SCOTIA

Halifax	27.5	3	30.5	34	27
Sydney	29.5	3	32.5	35	27.5

PRINCE EDWARD ISLAND

Charlottetown	27.5	3	30.5	34	27

Note: In districts surrounding these points 1c additional is added to city price.

Market Section

Export Demand for Kerosene Better Gasoline is Lagging

Special Correspondent
NEW YORK, Oct. 25

EXPORT demand for kerosene showed a noticeable improvement last week. Gasoline, however, was quiet with few foreign buyers inclined to purchase in large quantities. U. S. Motor sagged to 10¾ cents a gallon while other grades were also lower. Large quantities of California gasoline are finding their way into the Atlantic seaboard markets which are held chiefly responsible for the price cutting.

Gas oil was slightly lower at the Gulf but steady at New York. Bunker oil was in routine demand at unchanged prices. Waxes are weak. Continental buyers showed very little interest in the lubricants.

Export Gasoline—New York

Although U. S. Motor was generally quoted at 12 cents a gallon at the New York harbor refineries, sales were being made at 11¾ cents a gallon. Export buyers have been feeling out the market but are apparently not interested at the prevailing prices. Large arrivals of California gasoline, despite the high freight rates, have tended to depress the market considerably. One of the big Independent refiners was working on an inquiry from France for 50,000 barrels of 64-66 gravity 375 e. p. gasoline and prime and water white kerosene for November shipment. It is expected that this will be closed early this week.

Cased gasoline demand was slightly better. A lot of 25,000 cases of U. S. Motor and 64-66 gravity gasoline was sold to an Oriental buyer by one of the leading Independents, for November shipment.

Export Gasoline—Gulf Ports

The export demand for gasoline lagged, although one of the leading Independent refiners is working on an inquiry from a large French concern for 5600 barrels of prime white; 10,500 barrels of water white kerosene and 28,000 barrels of 64-66 gravity 275 e. p. gasoline for shipment from Oct. 25 to Nov. 25.

At the close of the week, Gulf refiners were quoting U. S. Motor at from 10¾ to 11 cents; 60-62 gravity 400 e. p. at 11 to 11¼ cents; 61-63 gravity 390 e. p. at 11¾ cents and 64-66 gravity 375 e. p. at 12¼ cents a gallon. Competition was keen. Cased gasoline ruled quiet. It was rumored that one of the leading refiners booked 50,000 cases of 64-66 gravity 375 e. p. and U. S. Motor for nearby shipment to Australasia but details and confirmation were lacking.

Domestic Gasoline—New York

Jobbing demand for gasoline has been rather spasmodic. Weather conditions have been unfavorable and consumption is undoubtedly on the wane. Refiners appeared more anxious for business and the 12-cent price for U. S. Motor in tank cars at the refineries was being shaded ¼ cent on bids. Stocks of gasoline are large and there has been a persistent report current of an impending reduction in the local tank wagon price.

Atlantic Coast Domestic Market

There is still considerable California gasoline coming around from the Coast which has been held largely responsible for the price cutting that has developed during the past few weeks. Cargo lots, at present freight rates, can be laid down here at 11½ cents and possibly a trifle lower. This gasoline is apparently finding its way all along the Atlantic Seaboard and in some instances into Western New York and Pennsylvania. The local refiners are asking 12 cents a gallon for U. S. Motor at Bayonne and Bayway but it is indicated by some that owing to the large arrivals of California gasoline business has been done at 11¾ cents a gallon, at the terminals, tank car lots.

Jobbing demand has been very disappointing. Weather conditions have been unusually unfavorable for this time of the year and the smaller distributors are content with buying just enough gasoline to tide them over the immediate future.

Domestic Gasoline—Gulf Ports

Considerable tank wagon price cutting developed last week. Tennessee and Arkansas were reduced while there is talk of a cut in the Gulf states shortly. Gulf refiners are asking 10¾ cents a gallon for U. S. Motor in tank cars at the refineries but jobbing demand has been disappointing. Weather conditions have been less favorable of late.

Export Kerosene—New York

Kerosene export prices were fairly well maintained last week. The big refiners reported a more active inquiry for barreled kerosene although no good sized sales were reported. At local refineries water white was quoted at 10¾ cents a gallon and prime white at 10½ cents a gallon. Local stocks of kerosene are fairly large but firmly held regardless of the weakness reported in the Gulf markets. Kerosene stocks abroad are believed to be low and Europeans are expected to enter the United States markets on a large scale shortly. Cased kerosene was in fair demand. A leading Independent refiner is reported to have sold 25,000 cases of prime and water white kerosene for November shipment to a Chinese buyer.

Export Kerosene—Gulf Ports

No bulk sales were reported in addition to those mentioned. Kerosene was soft and prime white was freely offered at from 8 to 8⅛ cents a gallon, while water white was dull at 9¼ to 9½ cents a gallon. Kerosene stocks on hand are large and while European buyers are beginning to show a more active interest in the market, the demand from abroad has not been sufficient to keep prices up.

Cased kerosene demand was a little more spirited. A South American buyer was credited with the purchase of 20,000 cases of prime and water white for late November shipment. Prime white was quoted at $1.75 a case and water white at $1.85 a case in cargo lots.

Domestic Kerosene

The domestic demand for kerosene has shown a marked improvement. Atlantic seaboard refiners are showing more confidence in the future owing to the marked improvement in consumption. Water white at New York refineries is offered at 10¾ cents a gallon while prime white is steady at 10½ cents a gallon. In the Gulf section water white was in better demand at 10¾ cents a gallon at the refineries. New York tank wagon prices were fairly well held.

Lubricants—New York

Export demand for the Pennsylvania lubricating oils is still lagging. Europeans are content with buying 200 to 300 barrels here and there and very few cargo sales have been reported during the past six weeks. As a rule, Pennsylvania cylinder stocks were weak. For 600 s. r. unfiltered in barrels, New York offerings were made at 18 cents a gallon without attracting many buyers. The demand for paraffin oils has improved a little. Bright stocks are steadier.

Lubricants—Gulf Ports

Some of the Gulf refiners reported a slightly more active export inquiry for zero cold test oils. Domestic consumption is gaining and in some instances slightly higher prices were reported although as a whole the market was quiet. The demand for Mid-Continent cylinder stocks has shown a slight improvement but most of the demand was from domestic marketers. A leading Independent is reported working on an inquiry for 28,000 barrels of assorted lubricants for November shipment to France. Details were withheld.

Waxes—New York

The price schedule of the paraffin wax market underwent little change last week. The bulk of the export business has been booked by two of the leading Atlantic seaboard refiners and small Independents are doing little or nothing in the way of foreign business. Spot stocks are large and prices show an easier tendency.

Local consumption is fairly heavy but as a rule buyers are operating hand-to-mouth in view of the weakened condition of the market. White crude scale 122-124 A.m.p. was quoted at 4.90 cents a pound but there was very little interest shown at this price. Fully refined wax is holding up fairly well considering the poor demand. Semi-refined wax was dull and easy.

Waxes—Gulf Ports

There is no really bright spot to report. Buying lacked snap. Prices were easy. The big Catholic countries are purchasing very conservatively. Refiners have reduced white crude scale 124-126 A.m.p. to 4¾ cents, a drop of five points from the previous week, but this concession failed to attract buyers. The asking price for 124-126 semi-refined wax was quoted at 4⅞ cents a pound against 5 cents the previous week. Fully refined waxes were quoted as follows:—123-125 at 5⅝ cents; 125-127 at 5⅝ cents; 128-130 at 5⅞ cents; 130-132 at 6 cents; 133-135 at 6⅛ cents and 135-137 at 6⅝ cents a pound.

Bunker Oil—New York

The majority of refiners are still quoting grade C bunker oil at $1.75 a barrel f.o.b. New York harbor refinery and $1.81½ a barrel f.a.s. New York harbor, but one of the leading refiners is offering 10 cents a barrel below these prices. Demand for bunker oil for bunkering purposes is more active while the contract withdrawals have shown a marked increase. Export demand, however, is lagging. Diesel oil was steady at $2.50 a barrel, refinery.

Bunker Oil—Gulf Ports

There was a dearth of cargo offerings last week. The last offer heard of was at $1.36 a barrel f.o.b. New Orleans. For bunkering purposes the asking price remained $1.60 a barrel f.o.b. New Orleans. Demand has been more active for small quantities but no bulk sales have been heard of. There was an export inquiry reported for 45,000 barrels of grade C but this failed to materialize. At Tampico for bunkering purposes the price was $1.55 a barrel including taxes while no cargo offerings were heard of. Heavy Panuco crude oil was nominal at $1.15 a barrel, taxes to be added.

Gulf Lube Movement Satisfactory

HOUSTON, Oct. 23—Manufacturers of Gulf Coastal zero cold test lubricants report continued satisfactory movements at unchanged prices. The tendency to shade prices, apparent at times, appears to be small at present, according to sales managers. Contract business against future deliveries reflects keen competition, but, manufacturers say, under satisfactory conditions.

Complete Export Markets

New York Export Market

GASOLINE	Oct. 25	Oct. 18
U. S. Motor Tank cars Ref.	12	-12
U. S. Motor cases	27.40	-27.40
California grade U. S. Motor F. O. B. N. Y. Cargoes	11½	-11½
KEROSENE		
43-45-150 W.W.Tank cars Ref.	10¾	-10¾
43-45-150 W.W.Cases	19 65	-19.65
42-44-110 S.W.Cases	19.15	-19.15
GAS OIL		
36-40, Bulk Refinery	-06¾	-06¾
28-34, Bulk Refinery	-06	-06
MEXICAN BUNKER OIL		
Grade C, f. o. b. ref. Bulk	1.65-1.75	1.65- 1.75
Diesel Oil f. o. b. ref. Bulk	-2.50	- 2.50
LUBRICATING OILS		

The following prices are cooperage basi f. o. b. New York, products being manufactured by inland refineries.

CYLINDER OILS (Bbls.) 1 inch Immersion Test; All Penna Products	
Filtered D 600	-27
Filtered E 600	-26
Unfiltered 600 s. r.	-18
Unfiltered 650 s. r.	-24
600 flash s. r.	-26
630 Flash	-34

RED PARAFFIN (Bbls.) (Viscosity at 70)		
300 vis. No. 5 color	21	-21
250 vis. No. 5 color	20	-20
High Viscosity... No. 5 color	25	-25

NEUTRAL OILS (Bbls.) (Viscosity at 70)		
200 vis.at F.Pale. No. 3 color	-31	-31
180 Pale. No. 3 color	-29	-29
150 Pale. No. 3 color	-24½	-24½

BLACK OIL (Bbls.)		
25-30 cold test	13½	-13½
15 cold test	14½	-14½

MEDICINAL OILS
(Includes Price of Drums)
(Penna. Stocks)

	Oct. 25	Oct. 18
Domestic 875-885 s. g.	- .85	- .85
Domestic 865-.870 s. g.	.75- .80	.75- .80
Russian 885-.890 s. g. 325-330 vis.	1.10-1.25	1.10-1.25

WAXES

(Penna. Stocks)
(F. A. S. Carload Lots)

WHITE CRUDE SCALE		
122-124 A. m. p.	-4.90	-4.90
124-126 A. m. p.	-.05	-.05
MATCH		
105-108 A. m. p.	-06	-06
FULLY REFINED		
120-122 A. m. p.	-05¾	-05¾
123-125 A. m. p. Philadelphia	-05¾	-05¾
125-127 A. m. p.	-05¾	-05¾
128-130 A. m. p.	-06	-06
130-132 A. m. p.	-06¼	-06¼
133-135 A. m. p.	-06¾	-06¾
135-137 A. m. p.	-06¾	-06¾
YELLOW CRUDE SCALE		
124-126 A. m. p.	-4.90	-4.90

PETROLATUMS
(Penna. Stocks)
Per Pound

Dark Green	02	02
Veterinary	02⅜	02⅜
Light Amber	03¾	03¾
Dark Amber	03½	03½
Cream	06	06
Lily White	07¾	07¾
Snow White	08¾-10	08¾-10

Gulf Export Market

GASOLINE
F. O. B. Seaboard
(Shipments of 20,000 Bbls. and over)

	Oct. 25	Oct. 18
U. S. Motor, Bulk	10¾-11 11	-.11¼
60-62 400 e. p. Bulk	-11	-.11½
61-63-390 e. p. Bulk	-11¾	-.11¾
64-66 375 e. p. Bulk	-12¼	-.12¼
U. S. Motor, Cases (cargo lots	2.10	2.05
64-66, Cases (cargo lots)	2.30	2.25
KEROSENE		
Water White, 43-45 bulk	09¼-09½	-09½
Prime White, 41-43 bulk	08 -08½	-08½
Water White, cases (cargo lots)	1.85	1.85
Prime White, cases (cargo lots)	1.75	1.75
DOMESTIC GAS AND BUNKER OIL		
26-28, gravity, bulk*	05¼	-05¼
32 plus, bulk, Dark	05	-05⅛
Grade C. Bunker oil	1.60	-1.60
Cargoes	1.36	-1.36

*Transparent through neck of a 4 oz. bottle.

MEXICAN CRUDE AND BUNKER OILS
F. O. B. Steamer Tampico

Heavy, Taxes to be added	nominal	1.15
Grade C, Bunker oil Taxes paid...cargoes	nominal	nominal
Grade C, Bunker oil F. O. B. Tampico, For Bunkering Purposes, taxes paid	1.55	-1.55

SOUTH TEXAS
(Viscosity at 100° F: cold test 0)
(Tanker, F. O. B. Houston)

*LUBRICATING OILS	Oct. 25	Oct. 18
100 Vis. No.2 Unfiltered Pale	07¾	07¾
150 Vis. No.2½ Unfiltered Pale.	10¼	10¼
200 Vis. No.3 Unfiltered Pale	11	11
300 Vis. No.3 Unfiltered Pale	12½	12½
500 Vis. No.3½ Unfiltered Pale,	14	14
200 Vis. No.5½ Red Oil	10½	10½
300 Vis. No.5½ Red Oil	11	11
500 Vis. No.6 Red Oil	12	12
800 Vis. No.6 Red Oil	16¼	16¼

*These prices are entirely nominal owing to wide fluctuations.

Pacific Export Market

(Cargo lots quotations at seaboard .Los Angeles

	Oct. 25	Oct. 18
Gasoline, U. S. Motor— 54°-56°	09 - 9½	09 - 9½
Gasoline, U. S. Motor— blends and special cuts	10 -10½	10 -10½
Gas Oil, 30°—34°B. per bbl	$1.35-1.40	1.00-1.15
Diesel Oil, 27°B—plus per bbl	$1.00-1.15	$1.15
Bunker Oil, 14°—18°B. per bbl	$ 85-1.00	85-1.00
Fuel Oil, 14°—18°B. per bbl	$ 85-1.00	$1.00
Kerosene, W. W. 38°—40° B per gal., 125-150 flash test	05½-06	.05-.06
Cased Goods		
Gasoline, U. S. Motor	$2.25	2.00-2.25
Kerosene, W. W. 38°—40° B per case, flash test 125-150	$1.45-1.55	$1.40-1.50

N. Y. Domestic Market

The following light oil, gas and fuel oil prices are F. O. B. New York refineries, being products made from Domestic (including California) and Mexican Crudes.

	Oct. 25	Oct. 18
U. S. Motor Gasoline, Tank Cars Delivered greater N.Y.	-12¾	13-15
U. S. Motor Gasoline, Tank Cars Bayonne	-12	-12
U. S. Motor, Tank Cars, *Atlantic Seaboard Terminals	11¾-12	-12
Kerosene, 44 150 W. W. Tank Cars de'd greater N.Y.	.11¾	-11¾
Grade C Bunker f.o.b.N.Y.Ref.	1.65-1.75	1.65-1 75
Diesel Oil f.o.b. Refinery	2.50	2.50
Gas Oil, 36-40, Bulk Refinery	-06¾	-06¾
Gas Oil, 28-34 Bulk, Refinery	.06	-06

*New York, Philadelphia, Portsmouth, Va. Charleston, S. C.

Crude Oil Prices, as Posted by Major

EASTERN FIELDS
(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$3.40
Bradford District Oil in National Transit Lines (Bradford District)	3.40
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	3.30
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	3.30
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	3.25
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	3.05
Keister Grade in National Transit Lines (Butler Co.)	2.05
Gaines Tioga Co. (Pa.)	2.85
Cabell Grade in Eureka Pipe Lines (West Virginia)	2.40
Corning Grade in Buckeye Pipe Lines (Ohio)	2.55
*Somerset Medium in Cumberland Pipe Lines (Kentucky)	2.50
*Somerset Light in Cumberland Pipe Lines (Kentucky)	2.65
Ragland Grade in Cumberland Pipe Lines (Kentucky)	1.25

*Somerset oil run prior to Oct. 1, 1928, takes price of 6 cents lower than above quotations.

(Posted by Stoll Oil Refining Co.)

Tinsley Bottom, Tenn oil in Stoll lines	$2.46
Oil City Ky. oil in Stoll lines	2.65

CENTRAL STATES FIELDS
Posted by Ohio Oil Co.

Wooster	$2.55	Illinois	$2.37
Lima	2.48	Plymouth	1.99
Waterloo	1.35	*Canadian Petrolia	2.88
Indiana	2.25	*Posted by Imperial Oil Ltd.	
Princeton	2.37		

OKLAHOMA, KANSAS And NORTH TEXAS
Prices of Prairie Oil & Gas Co.
(In Oklahoma, Kansas, North and East Central Texas
Effective May 15, 1926.

28-28.9	$1.65	34-34.9	$2.13
29-29.9	1.73	35-35.9	2.21
30-30.9	1.81	36-36.9	2.29
31-31.9	1.89	37-37.9	2.37
32-32.9	1.97	38-38.9	2.45
33-33.9	2.05	39-39.9	2.53
40-40.9	$2.61	47-47.9	$3.17
41-41.9	2.69	48-48.9	3.25
42-42.9	2.77	49-49.9	3.33
43-43.9	2.85	50-50.9	3.41
44-44.9	2.93	51-51.9	3.49
45-45.9	3.01	52 and above	3.57
46-46.9	3.09		

The Texas Co. posted same gravity and price as Prairie.

Humble Oil & Refining Co. Prices
(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

Humble's grades and prices same as Prairie schedule. In fields where Humble purchases crude below 28°, 8 cents less for each full degree.

Mirando, Tex	$1.25

Magnolia Petroleum Co. Prices
In Oklahoma, Kansas and North and East Central Texas

Same grades and prices as posted by Prairie excepting that Magnolia is paying $1.30 for all oil below 28° gravity.

Corsicana heavy	$1.25

PANHANDLE, TEXAS
Humble Oil & Refining Co.

Hutchinson, Carson and Wheeler Counties	$1.25

Gray County:

28-28.9	$1.10	37-37.9	$1.55
29-29.9	1.15	38-38.9	1.60
30-30.9	1.20	39-39.9	1.65
31-31.9	1.25	40-40.9	1.70
32-32.9	1.30	41-41.9	1.75
33-33.9	1.35	42-42.9	1.80
34-34.9	1.40	43-43.9	1.85
35-35.9	1.45	44 and above	1.90
36-36.9	1.50		

Magnolia Petroleum Co. posted flat price of $1.25 for Hutchinson and Carson Counties on Sept. 22, and Kay County Gas Co. on Oct. 4.

HURDLE DISTRICT, TEXAS
(Crane and Upton Counties)
Humble Oil & Refg. and Kay County Gas Co.

Below 26	$ .80	31-31.9	$1.10
26-26.9	.85	32-32.9	1.15
27-27.9	.90	33-33.9	1.20
28-28.9	.95	34-34.9	1.25
29-29.9	1.00	35-35.9	1.30
30-30.9	1.05	36 and above	1.35

NORTH LOUISIANA—ARKANSAS FIELDS
***Prices of the Standard Oil Co. of Louisiana**

Caddo, below 26	$1.40
" 26-28.9	1.55
" 29-31.9	1.70
" 32-32.9	2.25
" 35-37.9	2.35
" 38 and above	2.45
Homer, below 31	1.85
" 31-32.9	2.00
" 33-34.9	2.10
" 35 and above	2.20
Haynesville, below 33	2.00
" 33 and above	2.10
El Dorado, including Lisbon, below 33	2.00
" 33-34.9	2.10
" 35-36.9	2.20
" 37 and above	2.30
Bull Bayou, 32-34.9	1.95
" 35-37.9	2.10
" 38 and above	2.25
Smackover, below 24	1.10
" 24-24.9	1.35
" 25-25.9	1.40
" 26-26.9	1.45
" 27 and above	1.50
De Soto	2.30
Crichton	2.10
Bellevue	1.40
Cotton Valley	1.20
**Urania, La	1.10
†Calion (East El Dorado)	.95

*Gulf, Louisiana Oil Refining and The Texas Co. same prices as Standard.

**Posted by Louisiana Oil Refining Corp.

†Posted by Gulf.

STEPHENS, ARKANSAS
Posted by Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

26 and above	$1.65	Below 26	$1.45

GULF COASTAL FIELDS
Posted by Humble Oil & Refining Co.

Grades A	$1.40	28-29.9	$1.65
Grades B:		30-30.9	1.70
Below 25	1.40	31-31.9	1.75
25-25.9	1.45	32-32.9	1.80
26-26.9	1.50	33-33.9	1.85
27-27.9	1.55	34-34.9	1.90
28-28.9	1.60	35 and above	1.95

Fields classified as A and B are Goose Creek, Hull, Liberty, West Columbia, Orange, Boling and Pierce Junction. All other fields are Grades A only.

Automobile Factories Curtail Output

CLEVELAND, Oct. 23.—Curtailment is in progress at the automobile factories, says Automotive Industries. The downward trend is a natural reaction after the record high level of August and September operations and is the prelude to the slack season in sales now beginning. As yet there is no evidence that the recession is more than normal.

The sales market is spotty, with manufacturing sections buying better than agricultural districts, and the northern states more heavily interested in new cars than the southern, as might be expected from the impairment to purchasing power inherent in the collapse in cotton prices.

On the whole, however, there is a pretty general feeling that the winter market will be of average strength, and that a fair rate of output will be possible for the next three months.

GREAT FALLS, MONT.—Continental Oil Co. opened a new service station here on Oct. 14. This gives the company a total of five stations here.

Crude Price Changes

HOUSTON, Oct. 25—On Oct. 25 Humble Oil & Refining Co. reduced all grades of Gray county crude in Texas Panhandle 25 cents, making the minimum grade of 28 to 28.9 gravity $1.10, with 5 cents differential for each full succeeding degree of gravity, up to maximum grade of 44 and above, at $1.90 per barrel. Wheeler county crude, which had been on the same gravity basis with Gray county, was shifted to the clasification of Hutchinson and Carson county crude, taking flat price of $1.25 for all gravities. The two latter counties had been placed on the flat price on Sept. 22.

Humble also officially posted for the first time Crane and Upton county crude with a price of 80 cents per barrel for oil below 26 gravity, and 5 cents additional for each full succeeding degree of gravity, up to 36 and above, at $1.35. This schedule conforms to that being maintained by Kay County Gas Co. (Marland subsidiary).

Warren Refiners Lose On Coal Rate Fight

WASHINGTON, Oct. 25.— H. C. Peck, an examiner for the Interstate Commerce Commission, has recommended the dismissal by the commission of the complaint of the National Petroleum Association in behalf of refiners in the Warren district against coal rates from Pennsylvania and West Virginia mines to Warren. They alleged that the rate were too high in comparison with rate on coal to their competitors in Oil City. Peck said the adjustment was of long standing and should not be disturbed.

W. Texas Oil Men Have Club

SAN ANGELO, TEX., Oct. 23.—Oil men who visit San Angelo, both those on trips from remote points and those who are operating in the west Texas territory, find the club rooms of the West Texas Petroleum Club a convenient and comfortable place to spend their spare time. The club rooms are in the St. Angelus hotel and are elaborately furnished. It is expected that the club in time will have a membership of 400 to 600 oil men.

Purchasers, in All Fields (in Effect, Oct. 25, 1926)

GULF COASTAL FIELDS
Prices of The Texas Co.

Grades A	$1.60	*Grades B	$1.60
‡Grades B (light crude):			
35-35.9	$2.05	38-38.9	$2.20
36-36.9	2.10	39-39.9	2.25
37-37.9	2.15	40 and above	2.30

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on oil below 35° is same as Humble's postings on Grades B.

SPINDLETOP
Humble Oil & Refining Co.

Grade A	$1.25	25-25.9	$1.30
Grades B:		26-26.9	1.35
Below 25	$1.25	27-27.9	1.40
28-28.9	$1.45	30-30.9	$1.55
29-29.9	1.50	31-31.9	1.60

ROCKY MOUNTAIN FIELDS
Prices of Ohio Oil Co. and Midwest Refining Co

‡Salt Creek	29-29.9	$1.73
" "	30-30.9	1.81
" "	31-31.9	1.89
" "	32-32.9	1.97
" "	33-33.9	2.05
" "	34-34.9	2.13
" "	35-35.9	2.21
" "	36-36.9	2.29
" "	37 and above	2.37
Elk Basin		2.40
Grass Creek light		2.40
Big Muddy		$2.35
Lance Creek		2.40
Rock Creek		2.25
‡Osage		2.40
‡Cat Creek, Mont		2.40
Sunburst, Mont		1.35
‡Hogback, N. Mex		2.45
Artesia, N. Mex		2.20

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light, and Elk Basin.

The Texas Co. buys Salt Creek and Big Muddy crude.

CALIFORNIA
Standard Oil Co. of California

Santa Maria and Ventura Posted by *Union Oil Co.

Gravity	Signal Hill Huntington Beach	Inglewood Torrance	Whittier La Habra	Newhall, McKittrick, Kern River	Olinda-Brea Canon, Richfield	Athens-Rosecrans Dominguez	Montebello	Coyote Hills	Santa Fe Springs	Midway-Sunset Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria	Ventura
14-14.9	$ .85	$ .85	$ .85	$ .75	$ .85	.....	$ .85	$ .85	.....	$ .75	$ .75	$ .75	$ .75	$ .85	$ .85
15-15.9	.87	.87	.85	.75	.87	.....	.85	.85	.....	.75	.75	.75	.75	.85	.85
16-16.9	.90	.90	.85	.75	.90	.....	.85	.85	.....	.75	.75	.75	.75	.85	.85
17-17.9	.94	.94	.85	.75	.94	.....	.85	.85	.....	.75	.75	.75	.75	.85	.85
18-18.9	.98	.98	.86	.75	.98	.....	.86	.86	.....	.75	.75	.75	.75	.85	.85
19-19.9	1.04	1.04	.87	.75	1.04	.....	.87	.87	.....	.75	.75	.75	.75	.85	.85
20-20.9	1.10	1.10	.89	.....	1.10	.....	.89	.90	.....	.82	.82	.79	.78	.90	.90
21-21.9	1.16	1.16	.91	.....	1.16	.....	.91	.98	.....	.90	.90	.86	.81	.97	.97
22-22.9	1.22	1.22	.94	.....	1.22	.....	.94	1.06	.....	1.00	1.00	.93	.85	1.04	1.04
23-23.9	1.28	1.28	.....	.....	1.28	.....	.97	1.14	.....	1.11	1.11	1.00	.89	1.11	1.11
24-24.9	1.34	1.34	.....	.....	1.34	$1.34	1.01	1.22	$1.02	1.22	1.22	1.07	.93	1.18	1.18
25-25.9	1.40	1.40	.....	.....	1.40	1.40	1.05	1.30	1.08	1.33	1.33	1.14	.97	1.25	1.25
26-26.9	1.46	1.46	.....	.....	1.46	1.46	1.09	1.38	1.16	1.44	1.44	1.21	1.01	1.32	1.32
27-27.9	1.52	1.52	.....	.....	1.52	1.52	1.13	1.46	1.24	1.55	1.55	1.28	1.05	1.39	1.39
28-28.9	1.58	1.58	.....	.....	1.58	1.58	1.17	1.54	1.32	1.66	1.66	1.35	.....	1.46	1.46
29-29.9	1.64	.....	.....	.....	1.64	1.64	1.21	1.62	1.40	1.77	1.77	1.42	.....	1.53	1.53
30-30.9	1.70	.....	.....	.....	1.70	1.70	1.25	1.70	1.48	1.88	1.88	1.49	.....	1.60	1.60
31-31.9	1.76	.....	.....	.....	.....	1.76	.....	.....	1.60	1.99	1.99	1.56	.....	.....	1.67
32-32.9	1.84	.....	.....	.....	.....	1.84	.....	.....	1.72	2.10	2.10	1.63	.....	.....	1.73
33-33.9	.....	.....	.....	.....	.....	1.92	.....	.....	1.84	2.21	2.21	1.70	.....	.....	1.79
34-34.9	.....	.....	.....	.....	.....	2.00	.....	.....	1.96	.....	2.32	1.77	.....	.....	1.85
35-35.9	.....	.....	.....	.....	.....	2.08	.....	.....	2.08	.....	.....	1.84	.....	.....	1.92
36-36.9	.....	.....	.....	.....	.....	2.16	.....	.....	2.16	.....	.....	.....	.....	.....	.....
37-37.9	.....	.....	.....	.....	.....	2.24	.....	.....	2.24	.....	.....	.....	.....	.....	.....
38-38.9	.....	.....	.....	.....	.....	2.34	.....	.....	2.34	.....	.....	.....	.....	.....	.....
39-39.9	.....	.....	.....	.....	.....	2.44	.....	.....	2.44	.....	.....	.....	.....	.....	.....
40-40.9	.....	.....	.....	.....	.....	2.54	.....	.....	.....	.....	.....	.....	.....	.....	.....
41-41.9	.....	.....	.....	.....	.....	2.64	.....	.....	.....	.....	.....	.....	.....	.....	.....
42-42.9	.....	.....	.....	.....	.....	2.74	.....	.....	.....	.....	.....	.....	.....	.....	.....

***Union Oil Co. also purchases Long Beach crude and is maintaining the same gravity and price schedule in t hat field as the Standard maintains in Signal Hill and Huntington Beach fields. The Union also buys and pays the same prices as the Standard in the Rosecrans-Do mingues fields, on gravities ranging from 14 degrees to and including 24.9 degrees and in Santa Fe Springs, on gravities ranging from 20 to and including 23.9 degrees.**

REFINERS' and COMPOUNDERS' SUPPLIES

Following are the average market prices for the week on materials used by refiners and compounders f. o. b. shipping point as effective this date.

Refiners' Supplies

	Oct. 25	Oct. 18
Soda Ash light 58⅛ bags.cwt.	$1.38	$1.38
Silicate of Soda 60 deg. drums.....cwt.	$1.65	$1.65
Sal Soda wks.....cwt.	.90–1.10	.90–1.10
Caustic Soda 70⅛ solid..cwt.	– 3.10	– 3.10
Chloride of Lime.....cwt. works.....	– 2.00	– 2.00
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point.....per ton	10.50–11.00	10.50–11.00
Liquid Chlorine tank cars works.....lb.	– .04	– .04

Compounders' Supplies (Open Market)

Vegetable Oils—		
Linseed carloads spot.....lb.	11	10.9
Oct.-Dec.	11	10.9
Tanks, spot	10.5	10.3
Boiled carloads spot.....lb.	11.2	10
*Soya Bean spot, Bbls....lb.	14¾	14¾
Castor Oil—		
No. 1 Carlots, Bbls.	–.12½	–.12¾
No. 3 Carlots, Bbls.	–.11¾	–.11¾
Animal Oils—		
English Degras	.05½	–.05½
Domestic Degras, bbls., carloads.....lb.	–.04¾	–.04¾
*Horse.....lb.	–.08¼	–.08¼
Oleic Acid—		
Dist. Bbls.....lb.	.09¾–.10¼	.09¾–.10¼
Saponified Bbls.....lb.	.10 –.10½	.10 –.10½
Lard Oils—		
Prime		
Winter Strained. to 1½ ffa.	40/45c.t.lb. .16⅛	.16⅞
Extra		
Winter Strained. 2 to 4½ ffa.	40–45c.t.lb. .12¾	.13¼
Extra..... 4 to 5 ffa.	40–45c.t.lb. .12¼	.12¾
Extra No.1. 7 to 10 ffa.	40–50c.t.lb. .11¼	.11¾
No. 1.....15 to 18 ffa.	40–45c.t.lb. .11	.11½
No. 2.....22 to 23 ffa.	40–45c.t.lb. .10¾	.11¼
Prime Edible Tallow under 1⅜ ffa.	40–45c.t.N.Y.....lb. –.09¼	–.09½
Tallow acidless.....lb.	–.11¼	–.11¼
Lard Stearine.....lb.	–.17	–.17
Oleo Stearine.....lb.	–.11¾	–.12½
Neatsfoot Oil—		
Pure.....bbls.-lb.	.15¼	.15¾
Extra.....do lb.	.11¼	.11¾
No. 1.....bbls.-lb.	.11	.11½
Cold pressed.....lb.	.18¾	.18¾
Fish Oils—		
Menhaden Oil		
Light pressed.....gal.	–.62	–.65
White.....gal.	–.69	–.70
Yellow bleached.....gal.	–.67	–.68
*Herring tank cars coast.....gal.	–.47	–.47
Whale, extra winter bleached.....gal.	–.82	–.82
Seal.....gal.		nominal
Naval Stores—		
Turpentine, N. Y.....gal.	–.89½	–.91
Turpentine†.....gal.	–.83	.84½
Rosin, B. N. Y.....bbl.	13.50	13.75
Rosin, F. N. Y.....bbl.	13.60	14.30
Rosin, B†.....bbl.	11.75	12.25
Rosin, F†.....bbl.	11.75	12.75
Rosin Oil 1st run.....gal.	.85	.85
Rosin Oil 2nd run.....gal.	.90	.90
Pine Tar—		
Kiln Burnt.....bbl.	16.00	15.00
Ret rt.....bbl.	*18.50	18.50
Alcohol—Denatured—		
Formula 5		
Bbls.....gal.	–40	–40
Drums.....gal.	–33	–33

†Savannah, Ga. market.
*Nominal.

OIL STOCKS AND FINANCES

National Petroleum News

Phillips Reports Record Earnings; Dividend Needs Twice Earned

Staff Special

CLEVELAND, Oct 25.

RECORD earnings are reported by Phillips Petroleum Co. for the first nine months of 1926. Several other Independent companies which are operating in the Mid-Continent also report larger net income for the third quarter and first three quarters of this year. Among them are Marland Oil Co., White Eagle Oil & Refining Co. and Transcontinental Oil Co., Mid-Continent Petroleum Co. and Independent Oil & Gas Co. report earnings in the third quarter in excess of those of the same quarter of 1925 but profits for the first nine months this year are lower than those for the corresponding nine months last year.

Net profits of Phillips Petroleum Co. for the first nine months of 1926 totaled $15,750,992 after interest, taxes, depreciation and depletion. This amount was equivalent to $6.55 a share on the 2,407,092 shares of no par stock outstanding, or more than twice the dividend requirements, compared with $3.87 a share in the first nine months of 1925.

In the third quarter Phillips earned $10,626,579 after interest and taxes but before depreciation and depletion compared with $8,079,752 in the preceding quarter and $5,556,275 in the third quarter of 1925.

Consolidated income statements of Phillips for the first nine months of 1926 and 1925 compare:

	1926	1925
Oil income	$24,769,824	$15,326,277
Gasoline, miscel.	15,186,128	11,164,639
Total income	$39,955,952	$26,490,916
Operating exp.	9,367,818	6,969,587
General exp.	1,488,682	1,138,658
Interest, taxes	852,870	1,069,800
Abandoned leases, U. S. taxes, conting.	3,418,986	1,300,000
Deprec., deplet.	9,066,604	6,685,079
Net income	$15,760,992	$9,327,069
Dividends	5,413,356	2,850,271
Surplus	$10,347,636	$6,477,420

Phillips Petroleum Co. needs to do no borrowing or new financing at present, President Frank Phillips has reported to directors and a group of large stockholders. The balance sheet of Sept. 30 showed current assets three times current liabilities with cash alone amounting to $3,810,933. The company's only indebtedness is purchase money obligations and current bills.

The company spent $28,500,000 on capital assets in the nine months this year. Properties acquired have a value at present of at least $50,000,000, Mr. Phillips said. Concerning operations of the company he gave this data: crude production in the third quarter totaled 4,568,115 barrels, a daily average of 49,653 barrels compared with 32,535 in second quarter and 27,101, in third quarter of 1925; in nine months this year total production was 9,777,709 barrels, daily average of 35,725 barrels, compared with daily average of 26,154 barrels in first nine months of 1925. Production in third week of October average 63,000 barrels, net, he said.

On Sept. 30 Phillips had 1,934,094 barrels of crude in storage. Crude oil, except that at Burbank and in the Panhandle, has since been sold, Mr. Phillips said. On Sept. 30 it had 2154 producing wells in 374 properties comprising 57,402 acres. Its proven acreage in the Panhandle totaled 15,000. Concerning the Panhandle Mr. Phillips said:

"Because of inadequate transportation facilities and the present unsatisfactory price for oil produced in this territory, the company is storing the major part of this production, which not only requires an additional investment for facilities for storing the oil, but deprives us of a large amount of cash income. At present we are engaged in the transfer of 3,000,000 barrels of empty steel storage from Burbank and other districts to the Panhandle area. The program here will probably be doubled between now and spring. In order to fully protect these properties we must continue with the drilling of wells and the storage of part of the oil until such time as it can be moved at a price more commensurate with its value."

Natural gasoline facilities were increased by five plants in the nine months, bringing the number operated to 36. Additional plants are under construction. Production of natural gasoline in the third quarter averaged 448,016 gallons daily, compared with 435,858 daily in the second quarter, and 335,571 daily in the third quarter of 1925. In the nine months production was 118,338,818 gallons, a gain of nearly 42 per cent over the 83,459,502 gallons produced the same period of 1925. Yield of gasoline from gas put through was 23 per cent better than the first nine months of last year, while volume of gas put through of 64,347,692,000 cubic feet compared with 55,552,806,000 cubic feet the same months of last year. On Sept. 30 gasoline inventories were 5,904,890 gallons, 3,673,261 gallons less than June 30, with inventories since decreased to where they represent little more than working stocks.

The gas division in the third quarter sold 17,923,498,000 cubic feet against 15,011,865,000 the second quarter and 16,342,949,000 the third quarter of 1925, Mr. Phillips reports. Average sales price this year was about 25 per cent better than last year, with 47,675,816,000 cubic feet delivered in nine months against 44,513,987,000 in the corresponding months of 1925.

Marland Oil Co. spent $23,000,000 on property in the first nine months of this year and expects to spend about $10,000,000 in the fourth quarter, President E. W. Marland reported to stockholders. The company has increased its crude production from about 27,000 barrels a day in June to 50,000 barrels in the third week of October.

In the nine months this year Marland, after all charges except federal income taxes, earned $13,719,970, equivalent to $6.74 a share on the outstanding no par common stock. In the first three quarters of 1925 net was $13,690,029 but the per share equivalent was $6.87. In the third quarter this year, net was $5,868,553, or $2.19 a share, compared with $5,419,658, or $2.87 a share, in the third quarter of 1925. Following table is com-

(Continued on page 111)

Cleveland Stock Market

Oct. 22

	Par	Bid	Asked	Last Sale
Canfield Oil Co.	$100	110	.. ..	110
do pfd	100	.....	99	95
Fred G Clark Co.	10	3⅛	5	3⅝
National Refining Co.	25	39	40	39
do pfd.	100	130½	133	133
Paragon Refining Co.	25	7⅛	7¾	7⅝
do pfd	100	.....	79	80

xEx-dividend

Oil Dividends

	Amt.	Payable	Stock of Record
Louisiana Oil pfd. q.	$1.62½	Nov. 15	Nov. 1
Ohio Fuel Corp. m.	16⅔c	Nov. 15	Oct. 30
Prairie Oil & Gas q.	50c	Nov. 30	Oct. 30
Shell Union pfd. q.	$1.50	Nov. 15	Oct. 26
Sinclair Cons. pfd. q.	82	Nov. 15	Nov. 1
S. O. Ohio pfd. q.	$1.75	Dec. 1	Oct. 29
Union Tank Car q.	$1.25	Dec. 1	Nov. 10
do pfd.	$1.75	*	*

*Final dividend payable upon presentation of stock certificates for redemption.

Transactions In Oil Shares on New York Stock Exchange

1925 High	1925 Low	1926 High	1926 Low		Listed Capital	Par Value	Stocks	Rate	Div. Last Paid	Transactions week ended Oct. 23 Sales	First	High	Low	Last	Ch'ge
.....	.....	32¾	24¼	(sh)	713 000	N.P.	Amerada Corp.	50cQ	Oct. 30, 26	3,500	28¼	28¾	27½	28¼	+ ⅛
79¾	48	74	47	(sh)	200 000	N.P.	American Republics	.....	.....	.....	.....	.....	.....	.....	.....
47¼	32	59½	44¾	$	56 000,000	$25	Associated Oil	50cQ	Sept.25, 26	600	50	50	49	49	—1
117½	95½	128⅜	97		50,000,000	100	Atlantic Refining	.....	June 16, 24	11,000	100	101¾	98¼	100¼	+ ½
117¾	113½	120	115⅜		20,000,000	100	do pfd	$1¾Q	Aug. 2, 26	100	116¼	116¼	116¼	116½	+1½
33½	18¾	33½	23¾		25,000,000	25	Barnsdall Corp. A	50cQ	Oct. 1, 26	12,800	25½	25½	24½	25⅜	0
30	16	29½	23		3,713,275	25	do B	50cQ	Oct. 1, 26	400	23	24	23	24	0
34⅜	23⅞	38⅛	29¾	$	45,040,125	$25	California Petroleum	50cQ	Sept. 1, 26	13,900	30¼	30¾	30	30	— ⅜
70	42½	94½	50		23,542,500	100	General Asphalt	.....	.....	53,600	72½	75¾	68⅜	72	— ⅜
109	86½	140⅜	94⅞		7,416,000	100	do pfd	$1¼Q	Sept. 1, 26	1,200	112	112	107	107	—7
85	59	72	50¼		25,000,000	100	Houston Oil	.....	.....	1,500	53	53	50½	51¾	— ¾
41¾	13½	54	19⅜	(sh)	500,000	N.P.	Independent Oil & Gas	25cQ	Oct. 18, 26	45,300	25¾	28	25⅝	27½	+1½
14¼	5½	13¾	7¾	$	3,204,590	$10	Indian Refining	.....	Dec. 15, 20	1,500	8¼	8¼	7¾	8⅛	— ⅛
12⅝	6	12½	7½		4,545 860	10	do ctfs	.....	.....	300	8	8	7½	8	+ ⅛
110	77	104	90		2,296,400	100	do pfd	.....	Dec. 15, 21	.....	.....	.....	.....	.....	.....
1½	¼	¾	¼		1,678,760	10	Kansas & Gulf	.....	.....	100	¼	¼	¼	¼	0
.....	.....	24½	19⅛	(sh)	4,000,000	N.P.	Lago Oil & Transport	.....	.....	24,700	19¾	20¼	19¾	19⅞	0
23¾	13⅜	19⅞	12	(sh)	1,131,216	N.P.	Louisiana Oil Refining	.....	.....	138,200	14¼	14⅞	13⅜	14	— ⅛
.....	.....	97	93½	$	4,000,000	$100	do pfd	$1⅜Q	Aug. 16, 26	500	9⅝	95¼	95	95	— ½
35½	20¾	28⅞	16½	(sh)	330,000	N.P.	Maracaibo Oil	.....	.....	3,100	17½	17½	16½	17	0
60½	32⅝	63⅜	49¼	(sh)	1,895 823	N.P.	Marland Oil Co	$1Q	Sept. 30, 26	39,500	52¼	52¾	50¾	52⅜	+ ¼
£50	225	.....	.....	$	45,942,800	$100	Mexican Petroleum	$3Q	Oct. 20, 26	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....		12,000,000	100	do pfd	$2Q	Oct. 20, 26	.....	.....	.....	.....	.....	.....
22½	29	13¾	6	(sh)	945,939	N.P.	Mexican Seaboard	.....	Nov. 15, 24	3,300	9⅜	9⅜	8½	8⅝	— ⅛
38	25¾	37	27½	(sh)	1 357 800	N.P.	Mid-Continent Petroleum	.....	Aug. 1, 23	14,100	29½	29¾	28⅝	28¾	— ¾
94¼	83	100⅜	90	$	6,718 000	$100	do pfd	$1¾Q	Sept. 1, 26	100	98⅜	98⅜	98⅜	98⅜	+1¾
3¼	⅝	2½	1		25,415,540	10	Middle States	.....	July 1, 23	4,500	1	1⅛	1	1	0
1½	1½	1⅛	⅛		4,384,680	....	do ctfs	.....	.....	500	½	⅝	½	⅝	0
78½	51⅝	83¼	1	(sh)	3,500,000	N.P.	Pacific Oil	.....	Jan. 20, 26	7,400	1⅜	1½	1⅜	1⅜	0
83⅞	59½	76½	56⅛	$	48,307,400	$50	Pan American P. & T.	$1.50Q	Oct. 20, 26	1,100	61	62	61	61	— ½
84½	60⅛	78⅜	56⅞		91,025,100	50	do B	$1.50Q	Oct. 20, 26	37,100	61⅜	62½	60⅝	61½	+ ¼
49¾	37¼	46	30	(sh)	400,000	N.P.	Pan American Western B	50cQ	Oct. 30, 26	4,400	31	31½	30⅜	31¾	— ⅛
6¼	2¼	32	4½	(sh)	198,770	N.P.	Panhandle P. & R	.....	.....	5,300	13	14	12⅜	13¾	+ ¼
60½	37	99⅜	51	$	2,935,200	$100	do pfd	.....	July 2, 23	.....	.....	.....	.....	.....	.....
47⅛	36¼	52¾	40	(sh)	2,406,692	N.P.	Phillips Petroleum	75cQ	Oct. 1, 26	59,900	46⅝	48¾	46⅝	48⅝	+2
3½	1¼	1⅞	½	$	29,622,925	$25	Pierce Oil Corp	.....	.....	3,500	½	⅝	½	½	0
40	20¼	27⅛	12½		15,000,000	100	do pfd	.....	Feb. 1, 22	.....	.....	.....	.....	.....	.....
8¼	4½	7	2¼	(sh)	2,500,000	N.P.	Pierce Petroleum	.....	.....	3,500	2½	2⅝	2½	2½	0
32⅝	12½	18½	11	$	11,467,850	$50	Producers & Refiners	.....	Sept.15, 23	6,500	16½	18½	16¼	18	+1⅜
47⅜	27	39¼	30¾		2,845,350	50	do pfd	.....	May 1, 25	600	37	39¼	37	39	+2½
33¾	25⅛	31	25¼		75,959,250	25	Pure Oil Co	37½cQ	Sept. 1, 26	8,900	25¾	25⅞	25¼	25⅝	+ ⅜
108½	103	112¾	106		13,000,000	100	do 8% pfd	$2Q	Oct. 1, 26	200	109	109	109	109	— ¼
57⅜	48¼	57⅜	47⅜	(sh)	691,922	13.40	Royal Dutch, N. Y. shares	$1.739	Aug. 2, 26	2,600	48½	48½	47⅜	48	— ⅜
49	39½	48⅜	40¾	(sh)	93,345	£2	Shell Transport & T	$1.21	July 24, 26	100	40¾	40¾	40¾	40¾	—1¾
28⅜	21⅝	30½	24	(sh)	10,000,000	N.P.	Shell Union Oil	35cQ	Sept. 30, 26	27,300	28⅛	29⅛	28	29⅜	+1⅛
106½	99½	114	103	$	20,000,000	$100	do pfd	$1½Q	Aug. 15, 26	100	107⅞	107⅞	107⅞	107⅞	— ⅛
28½	17¾	28⅝	15⅛		7,207 620	10	Simms Petroleum	50cS.A.	July 1, 26	10,900	17¾	18⅜	17¼	17½	— ⅛
24⅞	17	24⅞	16¾	(sh)	4,489,887	N.P.	Sinclair Consolidated	.....	May 31, 24	47,500	18	18⅜	16¾	17⅞	— ⅛
94⅛	78¾	99½	90	$	17 852,200	$100	do pfd	$2Q	Aug. 15, 26	500	95½	95¾	94½	94½	—1
32½	21¾	36⅞	26⅜		23,988,590	25	Skelly Oil Co	50cQ	Sept. 15, 26	19,800	30⅜	32	30	31½	+1
.....	.....	63¾	52⅜	(sh)	13,016,434	N.P.	S. O. California	50cQ	Sept. 15, 26	34,300	60¼	61¼	60	60¼	— ¼
47½	38⅜	46⅜	40¼		515,109,675	25	S. O. New Jersey	25cQ	Sept. 15, 26	32,600	41¾	41⅞	41	41⅜	— ¼
119	116¼	119½	115¼		199,972,900	100	do pfd	$1¾Q	Sept. 15, 26	2,700	116⅛	116¾	116⅛	116¼	0
43⅞	38⅜	41⅝	30⅛	(sh)	1,103,931	N.P.	Sun Oil	25cQ	Sept. 15, 26	1,600	32½	32½	32	32½	— ⅛
6⅛	2	4¼	1	(sh)	1,121,368	N.P.	Superior Oil Corp	.....	Dec. 20, 20	7,800	2½	2¾	2¼	2¾	+ ¼
55	42¾	57¼	48	$	164,450,000	$25	The Texas Co	75cQ	Sept. 30, 26	24,200	52⅛	52½	51⅜	52½	+ ½
23⅜	10⅞	19½	12		8,380,340	10	Texas Pacific Coal & Oil	.....	June 30, 23	19,000	13¼	13⅜	12	13	— ⅛
36⅛	30¼	39¼	28	(sh)	2,137,570	N.P.	Tide Water Oil Co	37½c	Sept. 30, 26	.....	.....	.....	.....	.....	.....
101	99	103	89	$	20,672,900	$100	do 5% pfd	$1.25Q	Aug. 15, 26	400	89¼	89¼	89	89	— ¼
5⅞	3½	5½	3	(sh)	3,742,029	N.P.	Transcontinental Oil	.....	.....	15,900	3¾	3⅞	3½	3¾	0
43¾	33	58¾	37¼	$	40,480,800	$25	Union Oil of California	50cQ	Aug. 10, 26	50,000	55	56¼	53½	55	+ ¼
134	96¾	120	80		24,428,300	100	Union Tank Car Co	$1¼Q	Sept. 1, 26	1,400	116	117	115¼	116⅞	+1⅛
117½	113¼	118	113¼		12,000,000	100	do pfd	$1¾Q	Sept 1, 26	900	115⅝	116⅜	115⅝	115⅞	+ ⅜
31¾	25½	29¼	25⅛	(sh)	490,000	N.P.	White Eagle Oil & Refining	50cQ	Oct. 20, 26	1,200	26	26	24⅛	25½	0

*New High †New Low xEx-Dividend Total Sales 813,500

Pittsburgh Stock Exchange

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions Week Ended Oct. 22 Sales	First	High	Low	Last	Ch'ge
.....	.....	8½	6⅜	N.P.	Andes Petroleum	25,718	7¾	*8½	7½	8	+ ⅜
8¼	5¼	8½	5¾	$10	Arkansas Nat. Gas	.....	.....	.....	.....	.....	.....
.....	.....	97½	79¾	100	Columbia Gas (w.i.)	.....	.....	.....	.....	.....	.....
.....	.....	97½	95	$100	Col. Gas & El.pfd.w.i.	.....	.....	.....	.....	.....	.....
18	14½	17	12½	$10	Devonian Oil	265	15	15	14½	14½	— ½
112⅜	105⅛	116	112	$100	Duquesne Lt. 7s pfd	30	115¼	*116	115¼	116	+ ⅜
.....	.....	10	5½	N.P.	Houston Gulf Gas	1,200	5¾	6	5½	5¾	— ¼
.....	.....	46	39	25	Lone Star Gas Corp	5,588	45⅜	45⅝	44	44	—1¾
37¼	31	44	33⅛	25	Ohio Fuel Corp	210	43	43¾	43	43¼	— ¼
.....	.....	44	42	....	do ctfs. of deposit	3,524	43¼	43½	43	43½	+ ¼
.....	.....	5½	5	....	Ohio Oil & Gas	.....	.....	.....	.....	.....	.....
34	26	34	28	25	Oklahoma Nat. Gas	.....	.....	.....	.....	.....	.....
.....	.....	20¼	19¼	....	do ctfs. of deposit	2,484	19½	19½	19¼	19⅜	0
8¾	5	5⅝	3⅛	5	Pittsburgh O. & G	.....	.....	.....	.....	.....	.....
9⅝	6	10	7½	10	Salt Creek Cons	575	7¾	8	†7½	7½	— ¼
13¾	8½	24	8	10	Tidal Osage	2,975	24	24	22¾	23½	— ⅜
.....	.....	42½	40¾	N.P.	Waverly Oil Wks. "A"	100	41	41	41	41	0

Pittsburgh Curb Market

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions Week Ended Oct. 22 Sales	First	High	Low	Last	Ch'ge
2½	.60	3¾	2½	$ 5	Colombia Synd	.....	.....	.....	.....	.....	.....
.60	.15	.15	.15	5	Duquesne Oil	.....	.....	.....	.....	.....	.....
9	5½	22	22	10	Forest Oil	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	....	Guffey-Gillespie Oil	.....	.....	.....	.....	.....	.....
92⅜	64	91½	85	25	Gulf Oil Corp	.....	.....	.....	.....	.....	.....
.....	.....	79	79	100	Houston Gulf pfd	.....	.....	.....	.....	.....	.....
12½	3¾	12	7½	N.P.	Leonard Oil & Dvlp	.....	.....	.....	.....	.....	.....
.....	.....	1⅜	1⅜	N.P.	Mountain & Gulf	.....	.....	.....	.....	.....	.....
.....	.....	30¼	29	....	Oklahoma Gas	.....	.....	.....	.....	.....	.....
.47	.20	.42	.15	10	Omar O. & G	.....	.....	.....	.....	.....	.....
.....	.....	2	1¾	5	Pittsburgh Oil Dev	.....	.....	.....	.....	.....	.....
27½	25	33½	20	10	Plymouth Oil	200	20	20	†20	20	—10
7	3	5½	3	5	States Oil	.....	.....	.....	.....	.....	.....
4	1⅛	3½	2	$ 1	Texon Oil & Land	1,120	2⅛	2¼	2	2⅛	0
	9	20	8	10	TidalOsage(non-voting)	.....	.....	.....	.....	.....	.....

*New High †New Low xEx Dividend ‡Ex-Rights

NEW YORK CURB BONDS

Week Ending Oct. 22

	High	Low	Last	Ch'ge
Cities Serv. 6s '66	95	94¾	95	+ ⅛
Cities Serv. 7s "D" '66	115¾	114	115¾	+1⅛
Galena S. O. 7s '30	88⅛	80¼	84½	—4½
Galena S. O. Tex. 6s	97	97	97	— ⅛
Galena S. O. 6s '28	101½	101¼	101¼	— ¼
Gulf Oil 5s '37	100¼	100¼	100¼	+ ⅛
Gulf Oil 5½s '27	100⅛	100⅛	100⅛	0
Indepen. Oil 6½s '31	97½	97	97½	+ ½
Pan Amer. Pet. 6s '40	99½	99⅛	99⅜	0
Pure Oil 6½s '33	103⅛	103⅛	103⅛	0
Richfield Oil 6s	99	99	99	0
S O N Y 6½s '33	105¼	105	105¼	+ ¼
Sun Oil 5½s '39	99¾	99¼	99¼	— ½
Tidal Osage 7s '31	103½	102⅛	103	— ¼
Trans. Cont. Oil 7s '30	97½	97	97	— ½
Valvoline 7s '37	105	105	105	0

NEW YORK BONDS

Week Ending Oct. 22

Amer. Rep. Deb. 6s	99	99	99	0
Associated Oil gold 6s	103	102⅝	103	+ ¼
Atl. Gulf & W. I. S. S. 5s	67⅛	65½	67	—1
Atlantic Refg. deb 5s	100⅛	100⅛	100⅛	+ ⅛
Barnsdall Corp. 6s	96¾	96	96	— ½
Cal. Petrol. sf 6½s	104	103½	103¾	+ ¼
Empire Gas & Fuel 7½s	103⅝	103¼	103⅜	— ⅛
Empire Gas & Fuel 6½s	96¾	96½	96⅝	+ ⅛
Gen. Asphalt 6s	107½	107	107½	0
Gen. Petroleum 5s	100¼	99⅞	100⅛	+ ⅛
Humble Oil & Refg. 5½s	102	101⅜	102	+ ¼
Mid-Cont. Pet. 6½s	104⅜	104¼	104⅜	+ ⅛
Pan-Amer. P. & T. 7s	105⅞	105¼	105⅜	+ ⅛
Pan-Amer. P. & T. 6s	104¾	104	104½	0
Pierce Oil deb. 8s	100¾	100⅛	100⅛	+2⅜
Prod. & Refnrs. 8s	110⅞	110⅞	110⅞	— ¼
Prod. & Refnrs. 8s with w.i.	113	113	113	0
Sinclair Con. Oil Col. 7s	97¼	96½	96½	— ¾
Sinclair Con. Oil Con. 6½s	91¾	91⅛	91¾	+ ⅛
Sinclair Con. Oil 6s	100⅛	99¾	100	0
Sinclair Crude Oil 6s	100⅝	100⅜	100⅝	+ ⅛
Sinclair Pipe Line sf 5s	93	92½	93	— ⅜
Union Oil of Cal. 6s-A	107¼	107	107	— ⅛
Union Oil of Cal. 5s-C	98¾	98⅛	98⅛	— ⅛

Standard Oil Stock Traded in New York Curb Market

1925 High	1925 Low	1926 High	1926 Low		Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Oct. 22 Sales	First	High	Low	Last	Ch'ge
26⅜	17¼	19¾	16⅜	£	4,000,000	£1	Anglo American	60¾cS.A.	May 27,26	4,400	18	18½	18	18½	+ ⅜
.....	.....	18¼	16½		.....	£1	do ctfsnon votg	.....	.....	900	17¾	17⅞	17½	17⅞	+ ⅜
4¼	1⅜	2¼	1⅜	(sh)	500,000	N.P.	Atlanti c Lobos	.....	.....	200	1⅜	1⅜	1¼	1¼	— ¼
12⅜	3	5	3⅛	$	10,000,000	$10	do pfd	.....	.....	500	3⅛	3⅛	2⅞	2⅞	— ¼
240	205	301	226		1,000,000	100	Borne Scrymser	$4S.A.	Oct. 15,26	10	260	260	260	260	—5
.....	.....	.....	.....		.....	....	do new	.....	.....	.....	.....	.....	.....	.....	.....
72	53½	59½	42		10,000,000	50	Buckeye Pipe Line	$1Q	Sept. 15,26	600	43	43	†42	42½	—1
74	48½	75¼	65		3,000,000	25	Chesebrough Mfg	75cQ	Sept. 30,26	200	72½	72½	72¼	72¼	— ¾
115	110	.....	.....		1,000,000	100	do pfd	$1¾Q	Sept. 30,26	.....	.....	.....	.....	.....	.....
31½	21⅞	25⅞	17⅝		34,914,280	10	Continental Oil	25cQ	Sept. 15,26	19,900	18⅞	18⅞	†17⅝	17⅝	—1⅛
17½	10	17	13½		1,500,000	25	Crescent Pipe Line	.....	Sept. 15,23	100	15¼	15¼	15¼	15¼	— ¼
156	132	137	104		3,000,000	100	Cumberland Pipe Line	$3Q	Sept. 15,26	380	107	107	†104	104	—4
96	61	63¾	43½		5,000,000	100	Eureka Pipe Line	$1Q	Aug. 2,26	250	45	45	45	45	0
68½	23½	32½	9⅞		16,000,000	100	Galena Signal Oil	.....	June 30,25	300	11½	11½	11½	11¼	0
105	88	94½	35		4,000,000	100	do new pfd	.....	June 30,26	110	37	37	†35	35	—3¼
114	95	97½	48⅛		2,000,000	100	do old pfd	.....	June 30,26	70	48¼	48¼	†48⅜	48¼	—3⅞
95	42¼	68¼	52		72,916,650	25	Humble Oil & Refining	30cQ	Oct. 1,26	13,100	54½	55¾	†52	52¾	—2⅜
154½	127	144½	131		20,000,000	100	Illinois Pipe Line	$6S.A.	June 30,26	100	134	134	133⅞	133⅞	— ⅝
39¼	27¼	38¾	31½	sh	6,491,852	N.P.	Imperial of Canada	25cQ	Sept. 1,26	5,400	34¾	35	34¾	34¾	0
84	57⅜	70	55⅝	$	5,000,000	50	Indiana Pipe Line	$1Q	Aug. 14,26	300	59	59	†55½	55½	—3¾
55⅜	22⅛	35¼	28¾	sh	7,118,138	N.P.	International Petroleum	25cS.A.	Aug. 15,26	27,800	30⅛	30⅝	29¾	30¼	0
25⅜	16½	20⅝	13	$	6,362,500	$12½	National Transit	25cQ	Sept. 15,26	400	13	13¾	†13	13⅛	— ⅛
79	49¼	51½	28		5,000,000	100	New York Transit	.....	July 15,26	150	31	31	†28	28	—3½
88	67½	80½	65		4,000,000	100	Northern Pipe Line	$3S.A.	July 1,26	200	66½	66½	†65	65	—1
75¼	60¼	67¾	55¾		60,000,000	25	Ohio Oil Co	50cQ	Sept. 15,26	16,000	57⅞	58	57¼	57½	0
44½	19	24¾	15		10,000,000	25	Penn Mex Fuel	.....	May 21,25	1,300	20	21¾	20	20	+2½
65½	45⅞	60¼	48		60,000,000	25	Prairie Oil & Gas	50cQ	Aug. 31,26	4,300	50	50	49	49½	— ½
129¾	106	127½	122¼		81,000,000	100	Prairie Pipe Line	$2Q	July 31,26	1,150	124½	124½	123¾	123¾	— ¾
254	200	220	184½		4,000,000	100	Solar Refining Co	$5S.A.	June 19,26	50	195	195	190	190	—5
103	63	74½	24		10,000,000	100	Southern Pipe Line Co	.....	Mar. 1,26	.....	.....	.....	.....	.....	.....
47½	45	50	34½		20,000,000	25	South Penn Oil Co	37½cQ	Sept. 30,26	2,300	35½	35½	35	35	—1
84	50	56½	49		3,500,000	100	South West Pa. Pipe Line	$1Q	Oct. 1,26	.....	.....	.....	.....	.....	.....
70¾	59½	70½	60½	$	223,756,258	$25	S. O. Indiana	62½cQ	Sept. 15,26	35,000	61¾	61⅞	†60½	61½	— ⅛
46	30⅝	36½	16½		8,000,000	25	S. O. Kansas	.....	June 16,24	4,000	19⅛	19⅛	†16½	18	—1½
137	114¾	134⅜	108		16,864,434	25	S. O. Kentucky	$1Q	Sept. 30,26	900	117	116⅜	116	116½	+ ¼
.....	.....	51⅝	42		4,518,000	25	S. O. Nebraska	63cQ	Sept. 20,26	400	43⅞	43⅞	43¾	43¾	— ¼
48⅝	40¼	47¼	30⅜		358,102,000	25	S. O. New York	40cQ	Sept. 15,26	39,000	31	31	30½	30¾	— ¼
369	338	362	288		14,000,000	100	S. O. Ohio	$2½Q	Oct. 1,26	80	291	291	289	289	—1
123	116	122	117		7,000,000	100	do pfd	$1¾Q	Sept. 1,26	120	118¾	118¾	118½	118½	+ ¼
27	12	23	15¼		1,722,931	25	Swan-Finch Co	.....	Nov. 1,19	50	15½	15½	15½	15½	— ½
109½	80⅝	112	90¼		61,919,950	25	Vacuum Oil Co	50cQ	Sept. 20,26	7 800	94⅞	95	†90¼	90⅝	—4⅛

New

INDEPENDENT OIL BOOKLET

This Booklet contains description of properties, latest financial statements, dividend records and other important information regarding this group of companies.

Copy upon request

CARL H. PFORZHEIMER & CO.

Specialists in Standard Oil and Miscellaneous Oil Securities

25 Broad Street New York

New York Curb Market

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions week ended Oct. 22 Sales	First	High	Low	Last	Ch'ge
11½	2½	14½	4	$ 5	Amer. Maracaibo	13,000	5¼	5¼	† 4	4⅜	—1⅛
8⅜	5	8⅜	5¾	$10	Arkansas Nat. Gas.	3,400	7½	8⅜	7½	8	+ ⅜
.....	.....	19⅜	14⅛	N.P.	Beacon Oil	5,400	17⅜	17⅝	16	16	—1¼
47½	38	.....	.....	$25	British-American	.....	.....	.....	.....	.....	.....
10¾	2¾	22⅞	9¼	25c	Carib. Syndicate	15,300	16¾	16¾	15⅝	16⅝	+ ⅜
43	35	45⅞	37½	$20	Cities Service	11,000	45½	45¾	45⅜	45¾	+ ⅜
85⅜	80¼	90¼	82⅜	100	do pfd	5,300	89⅛	*90¼	88⅛	90¼	+1⅛
8	7¼	7⅞	7⅜	10	do pfd. B	600	7¾	7⅞	7¾	7⅞	0
21⅜	17⅜	22⅜	19	10	do bankers' sh	100	22⅜	*22⅝	22⅜	22⅝	+ ⅛
2¾	.60	3½	1¾	N.P.	Colombia Syndicate	21,600	2¼	2⅛	† 1¾	1⅞	— ⅛
15	8¼	16	10	N.P.	Creole Syndicate	22,300	12¾	13⅜	12¼	12¾	— ¼
12¼	5	7⅜	1¼	N.P.	Crown Central	2,900	1½	2	1¾	2	+ ¾
7	2	4	1⅛	N.P.	Derby Oil & Ref	.....	.....	.....	.....	.....	.....
27	10½	19	18	N.P.	do pfd	.....	.....	.....	.....	.....	.....
.....	.....	2¼	.60	.....	Euclid Oil	16,500	.95	1⅛	.93	1⅛	+ ⅛
6	1¾	7½	2½	N.P.	Gibson Oil	25,000	3	3⅜	† 2½	2¾	— ⅜
3¾	1⅜	2	.63	N.P.	Gilliland v.t.c	.....	.....	.....	.....	.....	.....
98¼	63½	95	82	$25	Gulf Oil Corp	7,200	89¾	90	86⅞	87	—2¾
5⅞	2¼	4	1	N.P.	Kirby Petroleum	1,200	1	1½	† 1	1½	0
18	6	12¼	5¾	N.P.	Leonard Oil & Dev.	8,300	7½	7½	7	7⅜	— ⅛
25⅞	18	25¾	20	N.P.	Lion Oil Refining	4,700	20¾	21¼	20¾	21⅜	+1⅜
.....	.....	46	31½	$25	Lone Star Gas	1,900	45⅜	45⅝	44½	44½	— ⅜
4¼	1¾	3⅜	2	N.P.	Marland of Mexico	.....	.....	.....	.....	.....	.....
5¾	.56	5½	2⅜	$10	Mexican-Panuco	13,600	2⅝	2⅝	† 2⅜	2¼	— ½
2	1	1¾	1⅜	1	Mountain & Gulf	.....	.....	.....	.....	.....	.....
26¼	18⅜	26	22½	10	Mountain Prod	9,100	24	24	23	23	+ ½
6¾	3¾	6¾	5⅜	5	New Bradford	2,100	5½	5½	† 5⅜	5¼	0
24¾	16¼	11¾	2	10	New England Fuel	300	5½	5½	5⅜	5⅜	— ⅛
19⅜	6¼	17	9⅜	1	New Mex. & Ariz	2,900	10	10⅛	9¼	9½	— ¼
12½	8¼	17	8	$5	New York Oil	300	10	10	9⅜	9⅜	— ⅛
37	14	36	34¼	25	Ohio Fuel Corp	.....	.....	.....	.....	.....	.....
.....	.....	9¾	6	....	Pandem	2,800	6⅜	6⅜	† 6	6½	— ⅛
2½	.90	2¾	.20	N.P.	Peer Oil Corp	1,000	20	20	†20	20	—30
28¼	16	22¾	12	$10	Pennok Oil	1,400	13½	13½	†12	12¼	—1⅝
44½	16	38	14⅛	25	Red Bank Oil	800	22¼	22¼	21	21¼	—2¾
33½	19	28¾	12	N.P.	Reiter-Foster	6,100	15½	15½	†12	13¾	—2¼
.....	.....	27½	24⅞	$25	Richfield Oil w.i	500	25	25	†24⅞	24⅞	— ⅛
9½	3½	7⅜	4½	N.P.	Ryan Consolidated	400	4⅝	4⅝	† 4½	4½	— ½
9¾	6¼	10	7½	$10	Salt Creek Cons	1,400	8¼	8¼	† 7½	7½	— ¾
35	24	36	26⅞	10	Salt Creek Prod	8,300	29	29	†26⅞	27¼	—2
3⅞	1	4	1⅛	5	Savoy Oil	.....	.....	.....	.....	.....	.....
13¾	9	25	7¾	10	Tidal Osage	4,500	23	24⅞	22¾	23½	— ½
10⅛	8	22⅞	8¼	10	do non-voting	6,500	19½	20¾	19½	21	+ ½
.....	.....	27	20⅜	N.P.	Tide Water Assoc	20,500	22	22	†20⅞	21¼	— ¾
.....	.....	99¼	97½	100	" " " pfd.	3,100	97½	97⅝	97½	97½	0
4⅞	1¾	8	4¼	5	Venezuelan Pet	3,500	5⅜	5½	5⅛	5½	0
.....	.....	29¾	23½	N.P.	Warner-Quinlan	1,700	24¾	25	23⅞	24	—1
31¾	22⅛	36⅛	22	N.P.	Wilcox O. & G. new	800	26¼	27⅛	26¼	26½	+ ¼
7	3⅜	9½	4⅜	$1	Woodley Petroleum	400	7¾	7¾	7½	7½	0

*New High †New Low xEx-Dividend.

(Continued from page 108)

parison of Marland's income for the first nine months of 1926 and 1925:

	1926	1925
Gross	$55,530,862	$51,730,087
Expenses	43,831,980	38,657,658
Net earnings	$11,698,882	$13,072,429
Other income	7,578,502	6,604,463
Gross income	$19,277,384	$19,676,892
Interest, etc.	68,743	1,113,660
Surr leases	746,503	1,048,625
Depr reserve	2,773,602	2,035,768
Depl reserve	1,968,566	1,788,810
Balance	$13,719,970	$13,690,029
Net income	$13,719,970	$13,690,029
Dividends	5,727,617	2,695,594
Surplus	$7,992,353	$10,994,435

Mid-Continent Petroleum Corp. in the first nine months totaled $11,020,001 after interest and reserves, except federal income taxes, compared with $11,254,263 in the first nine months of 1925. In the third quarter of 1926 it earned $4,203,116 after charges excepting income taxes, compared with $3,907,528 in the third quarter of 1925.

Net income of Independent Oil & Gas Co. for nine months was $1,794,376, or $3.59 a share, compared with $2,163,913, or $4.32 a share in the first nine months of 1925. In this quarter Independent netted $864,947, or $1.73 a share, compared with $506,347, or $1.01 a share, in third quarter of 1925. All income amounts are after depreciation, depletion, tax and interest charges. Company's present production is given as 14,000 barrels daily.

White Eagle Oil & Refining Co. reports net of $2,513,089 for the first nine months of 1926 before depreciation, depletion and income taxes, compared with $2,488,079 in first nine months of 1925 before same charges. In third quarter net was $1,168,397 compared with $673,129 a year ago, both before the aforementioned charges.

Transcontinental Oil Co. reports for nine months net of $1,846,632 after depreciation, depletion and interest, equivalent after dividends on preferred stock to 27 cents a share. Only 10 cents a share was earned on the common in the first nine months of 1925.

In the third quarter Transcontinental netted 16 cents a share on the common while in the third quarter of 1925 the company netted only 88 cents of the $1.75 due that quarter on the preferred stock. On July 1, 1926, 15¾ per cent in dividends had accumulated against the preferred stock.

Skelly Directors Re-elected

TULSA, Oct. 23—All directors of the Skelly Oil Co. were re-elected at the annual meeting in Tulsa Oct. 18. The directors are A. T. Ferrell, Saginaw, Mich.; C. C. Herndon, vice-president of the company; F. T. Hopp, secretary and treasurer; F. A. Pielsticker, vice-president; W. G. Skelly, president; Glenn Ford McKinney, New York, and Thomas J. Megear, New York.

THE OIL INDUSTRY EXCHANGE

Market Section

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SALES MANAGER; mechanical engineer, 16 years' experience in manufacturing and sale of machinery and engineering material. Successful training and working salesmen and road service men. Have had exceptional training and experience, merchandising and engineering lubricating oils. Broad acquaintance with manufacturers of Middle West, especially Detroit motor trade and steel manufacturers. Open for engagement January 1st. Box 714.

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EXPERIENCED OIL REFINERY DESIGNING AND MECHANICAL ENGINEER WANTED. Address Box 706 care this publication.

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A large eastern oil marketing company has a vacancy in its Legal Department for a high grade attorney.

Requirements involve devoting full time to work; successful experience in commercial law, contracts, leases, collections, and qualifications to take full charge of department.

This is an unusual opportunity with a future for an attorney, who is desirous of a permanent connection of this character.

State age, if married or single, experience, references, and compensation desired at start.

Box 720

Miscellaneous

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L. D. 136

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